

ENVIRONMENTAL MANAGEMENT PLAN - RENEWAL

ENVIRONMENTAL CLEARANCE CERTIFICATE RENEWAL

OPERATION OF THE CONSUMER FUEL INSTALLATION, WINDHOEK, NAMIBIA

PREPARED AND SUBMITTED BY



NAMLAND CONSULTANTS

P.O. Box 55160, Rocky Crest, Windhoek
Cell: 0812805501; 0811474742 | Fax 2 mail: 0886519068
Email: consultancy@namland.com.na

JULY 2020

PROPONENT

Coca-Cola Namibia Bottling Company
Phone, +264 61 320 7000 · Address. Rensburger Street;
Windhoek, Namibia



TABLE OF CONTENTS

ITEM	DESCRIPTION	PAGE
1.	EXECUTIVE SUMMARY	02
2.	PROJECT LOCATION	03
3.	SCLAE OF THE PROJECT	04
4.	AN INTRODUCTION TO THE ENVIRONMENTAL MAMANGEMNT PLANNING	06
5.	SCOPE OF THE ENVIRONMENTAL MANAGEMENT PLAN	07
6.	HEALTH & SAFETY	08-15
7.	RESPONSIBILITIES, TRAININGS & COMMUNICATION	16-20
8.	TRAININGS	20-23
9.	COMMUNICATIONS	23-24
10.	REGULATORY REQUIREMENTS	24-25
11.	STANDARD OPERATING PROCEDURES (SOPs)	25-37
12.	CONTIGENCY PLANNING ACCIDENTS MALFUNCTIONS	37-42
13.	ENVIRONMENTAL COMPLIANCE	42-44
14.	IMPACT EVALUATION & MITIGATIONS	45-52
15.	DECOMISSIONING & SITE CLOSURE	52
16.	ENVIRONMENTAL MONITORING	52
17.	CONCLUSIONS	54

LIST OF TABLES

FIGURE	DESCRIPTION	PAGE
1	EMERGENCY EQUIPMENT INVENTORY	14
2	WASTEWATER DATA SHEET GUIDELINES	26-28
3	ENVIRONMENTAL MANAGEMENT PLAN (EMP)	44
4	IMPACT EVALUATION & MITIGATORY MEASURES	45-51
5	IMPACT PARAMETERS SENSITIVE TO THE IMMEDIATE ENVIRONMENT	53

LIST OF FIGURES

TABLE	DESCRIPTION	PAGE
1	LOCALITY MAP	04
2	SITE LAYOUT	05
3	PICTURES OF THE PUMPS, FILLER POINTS & SEPARATOR	05
4	EMERGENCY ORGANISATION	11

LIST OF ABBREVIATIONS

SCBA	Self-Contained Breathing Apparatuses
HSP	Health and Safety Plan
EMA	Environmental Management Act (Act 7 of 2007)
EHS	Environment Health and Safety
EI	Environmental Inspector
EP	Equator Principles
PSD	Prevention of Significant Deterioration
NSR	New Source Review
SEC	Site Environmental Coordinator
DIR	Daily Environmental Inspection Reports

1. EXECUTIVE SUMMARY

Namland Consultants was requested by Coca-Cola Bottling Company Namibia to perform an Environmental Condition Survey on the Consumer Fuel Installation of Coca-Cola Namibia in Windhoek, NAMIBIA.

The Environmental Assessment is conducted to determine all environmental, safety, health and socioeconomic impacts associated with the operations of the facility. Relevant environmental data has been compiled by making use of secondary data and from a reconnaissance site visit. Potential environmental impacts and associated social impacts were identified and are addressed in this report.

Due to the nature and location of the facility, limited impacts can be expected on the surrounding environment, see summary impacts table below. The facility is surrounded by industrial type businesses including other ones with their own consumer fuel installations. It is recommended that environmental performance be monitored regularly to ensure regulatory compliance and that corrective measures be taken if necessary.

The operations of the consumer fuel installation contributes to the effective day-to-day operations of Coca Cola Bottling Company Namibia, who specializes in sales and merchandising, warehousing, distribution, procurement and marketing.

The major concerns related to the operations of the facility are that of potential groundwater, surface water and soil contamination and the possibility of fire. This will however be limited by adherence to South African National Standards and Material Safety Data Sheet instructions. Furthermore, noise pollution should meet the minimum requirements of the City of Windhoek. By appointing local contractors and employees and implementing educational programs the positive socio-economic impacts can be maximized while mitigating any negative impacts.

The Environmental Management Plan should be used as an onsite reference document during all phases (planning, construction (care and maintenance), operations and decommissioning) of the facility. All monitoring and records kept should be included in a report to ensure compliance with the Environmental Management Plan. Parties responsible for transgression of the Environmental Management Plan should be held responsible for any rehabilitation that may need to be undertaken. A Health, Safety, Environment and Quality policy as well as Environmental Policy could be used in conjunction with the environmental management plan. Operators and responsible personnel must be taught the contents of these documents. Municipal or national regulations and guidelines must be adhered to and monitored regularly as outlined in the environmental management plan.

2. PROJECT LOCATION

2.1. Locality

CCNBC is situated on erf 19 in Rendsburger Street, Lafrenz Industrial, Windhoek (22.5056°S; 17.0712°E). The land is zoned for industrial use and falls under the authority of the Municipality of Windhoek as seen in Figure 1.

2.2. Climate

The project location is part of a semi-arid highland savannah region. Heavy rainfall in this region is common between January and March, peaking mostly in January, whilst May to September have little or no rainfall. The aridity of the region causes water resources to be a scarce commodity that has to be conserved and protected from pollution.

2.3. Topography & Drainage

The site is located in the Khomas Hochland Plateau region. This area is made up of rolling hills in the west with many summit heights equivalent reflecting older land surfaces. The topography falls off to the east as the Kalahari is approached.

The site is located within the catchment of the Swakop River, an ephemeral river, which drains in a Western direction. During the rainfall season, water gathers in the area of the consumer fuel installation. CCNBC has set up a storm water drainage structure in order for the water to flow out of the site during heavy rainfall.

2.4. Geology and Hydrogeology

The complex geology of the Windhoek area is a result of numerous folding and faulting episodes, including thrusting and rifting, to which the area has been subjected. Metasedimentary rocks of the Swakop Group, which is part of the Damara Sequence, constitutes the Windhoek Aquifer.

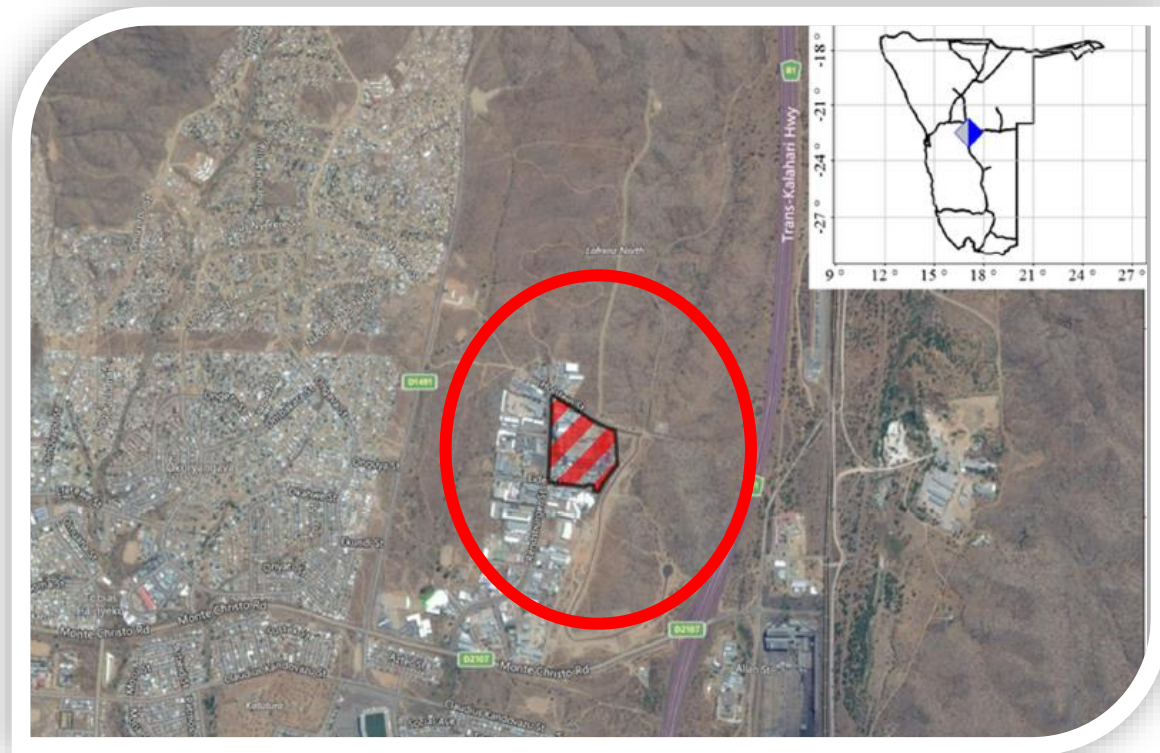


Figure 1: Locality Map of CCNBC which is situated on Erf 19 in Rendsburger Street, Lafrenz Industrial, Windhoek (22.5056°S; 17.0712°E)

3. SCALE OF OPERATION OF THE PROJECT

The site consists of 2 underground storage tanks. Each of the tanks are connected to a dispensing point which is located next to a spill slab with oil trap that is connected to an oil water separator.



Figure 2: Site Layout

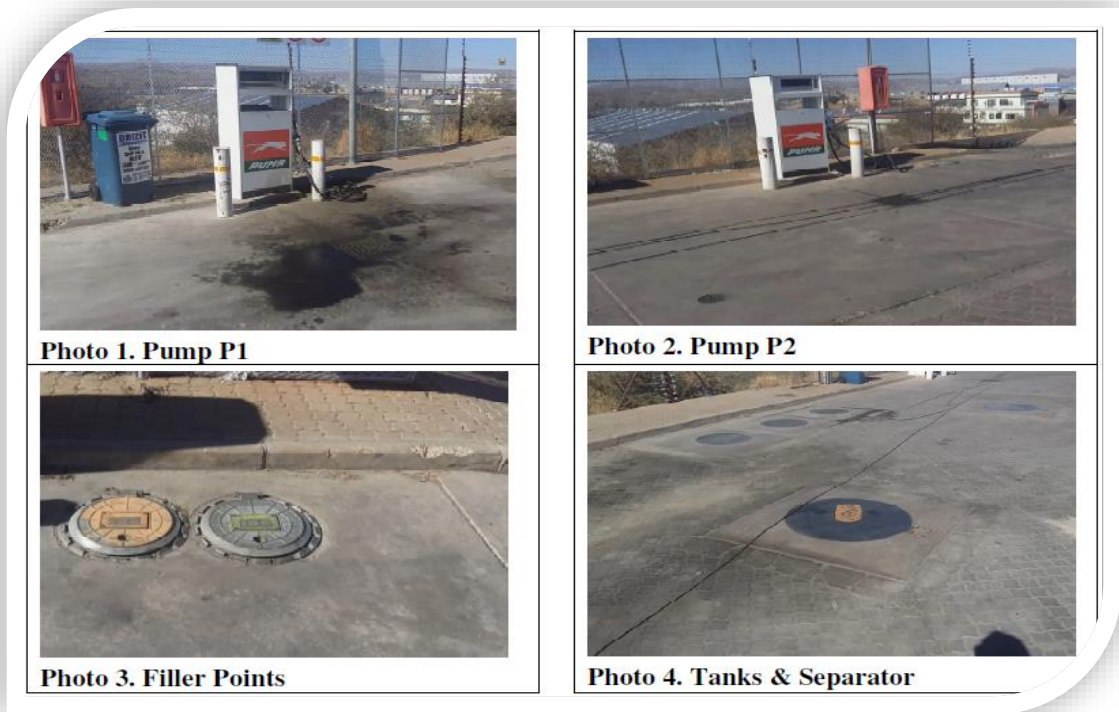


Photo 1. Pump P1

Photo 2. Pump P2

Photo 3. Filler Points

Photo 4. Tanks & Separator

Figure 3: Pictures of the Pumps, Filler Points, Tanks and Separator

4. AN INTRODUCTION TO ENVIRONMENTAL MANAGEMENT PLANNING

Environmental Protection Planning is an important component of overall planning and implementation of mega-projects. Industrial activities, including those associated with the operation of the consumer fuel installation are reviewed and approved by Government agencies through a variety of approvals, authorizations and permits addressing issues ranging from human health and sanitation to fisheries and wildlife habitat avoidance or protection. The Environmental Management Plan (EMP) is an important integration document between the various approvals, authorizations and permits issued for specific components and/ or activities of the undertaking. This EMP outlines the contents of operational phases (constructed is scoped out). It constitutes a contract document for use in the field by the contractor(s) and their personnel during operations. Coca- Cola Bottling Company Namibia, is responsible for implementing the EMP and ensuring that all personnel are informed about the EMP and the requirement to implement the procedures it contains. The EMP is intended as a quick reference for Project personnel and regulators to monitor compliance, and is structured to allow updates and revisions as work continues.

4.1. Coca- Cola Bottling Company Namibia's Commitment to Environment, Health and Safety:

Coca- Cola Bottling Company Namibia is committed to manage and operate its assets in a manner consistent with its core values to protect the health and safety of people and the environment and to comply with applicable Environment Health and Safety (EHS) laws, regulations and internal EHS standards. In this regard a sketch of environmental policy is being given here which may be a part of Coca- Cola Bottling Company Namibia's corporate level policy. The management and staff of Coca- Cola are committed to preserving and protecting the quality of area's environment. A clean environment is important for the success of Coca- Cola business and for that future generations can also enjoy these precious resources.

In support of this commitment, Coca- Cola strives to conduct clean material and goods export/import practices and educate its staff, customers and guests on sound practices. Coca- Cola overall goal is to create awareness among the Coca- Cola staff and protect the environment due to the facility operations. The company achieves this goal by using a team oriented management approach to help ensure responsible use of our air, land, and water resources. To achieve this goal as a Coca- Cola's management and staff will put their all practicable efforts to meet or go beyond compliance with all applicable environmental rules and regulations. Coca- Cola endeavors to continually improve our environmental performance and to prevent pollution before it is produced. All our employees are expected to support our environmental goals while providing clean and environment friendly means of working practices and minimum incident rate.

4.2. Purpose of the EMP: The primary purpose of this EMP is to establish the Environmental Protection Procedures to be implemented by Coca- Cola staff, consultants and contractors. Coca- Cola has committed to developing and implementing a comprehensive EMP to help ensure a high level of environmental protection throughout this undertaking. This EMP provides the protection procedures associated with both planned activities anticipated for the construction and operations of the terminal as well as for accidental events.

The purpose of the EMP is to:

- outline environmental protection measures to be followed during operations of the facilities owned by Coca- Cola
- ensure that commitments to minimize environmental effects are met;
- document environmental concerns and appropriate protection measures;

- provide concise and clear instructions to Project personnel such as Coca- Cola staff and contractors regarding procedures for protecting the environment and minimizing environmental impact;
- provide a reference document for personnel when planning and/or conducting specific activities;
- provide contingency plans for accidental events;
- communicate changes in the program through the revision process; and
- Provide a reference to applicable legislative requirements.

5. SCOPE OF THE EMP

The initial focus of the EMP is the protection of the environment and traffic management due to increase in visiting people as well as those activities under the direct control of Coca- Cola management where activities may give rise to significant environmental impacts, the EMP includes a number of priority strategies and actions relating to these locations. The EMP also supports collaboration and joint actions with affiliated organizations, tenants and contractors within the Coca- Cola's sphere of influence.

In line with the Environmental Management Act (EMA) (Act 7 of 2007) and its regulations, the following criteria will be used to determine priorities for attention:

- Impact on the physical and biological environment;
- Contribution to innovation and definition of best environmental practice;
- Compliance with statutory requirements and other environmental commitments;
- Availability of resources.

The EMP acknowledges the social and cultural dimensions of responsible environmental management alongside the biological and physical, reflecting a holistic view of the Coca- Cola as a "human ecosystem".

The scope of the EMP includes the following functional areas

- **Management systems:** Those systems employed in the management of the Coca- Cola's operational activities. It will include financial systems; engagement and supervision of contractors; purchasing policies, etc.
- **Knowledge systems:** Those processes which build knowledge and capacity on environmental issues, principles and sustainable behaviours. It will include training; communications; campaigns; links with operational departments, etc.
- **Energy management:** The energy-related aspects of the planning, design, construction, operation and maintenance of the Coca- Cola's facilities.
- **Water management:** Aspects of supply, usage and disposal of water pertinent to the planning, design, construction, operation and maintenance of the Coca- Cola's facilities.
- **Materials management:** Those services and activities which support the avoidance, resource recovery (e.g. reuse and recycling) and environmentally responsible disposal of solid and liquid waste materials.
- **Planning, design and development:** The planning, design and development of the Coca- Cola's built form and associated infrastructure.
- **Pollution prevention:** Those aspects of planning and management which support minimization of air and water pollution and contamination of land resulting from daily routine activities.

- **Transport:** Programs, projects, systems and procedures which promote and support walking, cycling and public transport for trip-to-work, accommodation and other related travel.
- **Biodiversity and open space:** Those aspects of management and maintenance which support conservation and enhancement of biodiversity and environmentally sustainable use of open space across Coca- Cola and other properties.

The proposed scope of the Project subject to the EMP includes all the main components of the Project

- terminal and storage facilities;
- Access roads; and
- Supporting facilities and infrastructure.

5.1. Organization Of The EMP: The EMP will provide the procedures; organization and instruction to ensure Project personnel understand and implement Environmental Protection Procedures for routine activities associated with the project. The organization, style and format of the EMP is intended to enhance its use by Project personnel in the field and to provide an important support document between overall environmental management of the Project and various permits and authorizations issued for specific construction and commissioning related Project components and activities.

5.2. Maintenance Of The EMP: This section will outline the responsibilities and activities associated with the maintenance of the EMP. The responsibilities of the Environmental Monitor will be detailed and procedures for requesting EMP revisions will be outlined. EMP revision procedures will include requirements for notification of the appropriate government agencies.

6. HEALTH & SAFETY

6.1. Environmental Health And Safety Management System:

This section will outline an Environmental Health and Safety Management System which will outline mitigative measures and best management practices. This management is recommended to carry out a complete assessment, evaluate, monitor, identify and control all potential hazards and risks arise during the construction, operation and dissertation phases of the proposed project.

The management needs to ensure that the Health and Safety Plan (HSP) along with the Plant Health and Safety Rules is established and enforced. The Plan outline roles, responsibilities and expected outcomes with respect to the environmental health and safety management of the Project. These measures should be implemented to ensure that no significant adverse environmental health and safety impacts are created by activities associated with the construction of the Project.

3

The facility is designed to include spill containment systems, fire protection systems, multiple gas, flame, smoke and low- and high temperature detectors and alarms, and automatic and manual shut-down systems. The efficiency and stability of operations will be maximised by the use of a high level of automation, regular preventative maintenance, and safeguards such as back-up systems and the provision for safe emergency shut-downs. Prior to project commissioning, all personnel will be required to undertake an extensive training

8

program to ensure safe operating practices. The training program and subsequent regular refresher programs involve issues covering operations, hazards, safety and emergency procedures and environmental management.

The Plant Health and Safety Rules should include provisions for, impediment of and response to noxious chemicals and gases. It is also the responsibility of the management to provide the following basic information:

- Description of all potential hazards/ risks.
- Health and Safety implications about all hazards
- Description about management techniques including inspections, maintenance follow-up, reports, personnel protective gears and medical monitoring.
- Outline of emergency response procedures including organizational structure of key trained personnel to act as emergency responders action steps for entering and working within zone of hazards, evacuation procedures, protective gear requirements, decontamination procedures, lines of communication, emergency call centres' telephone numbers, map of nearest medical centers' route, etc.

6.2. Worker Health And Safety Plan

This section will outline a Worker Health and Safety Management System which will outline mitigative measures and best management practices. Roles, responsibilities and expected outcomes will be defined. The Plan should be implemented to ensure that no significant adverse worker's health and safety issues arise from activities associated with the construction of the Project. The Plan will apply to all Coca- Cola personnel, employees and contractors.

- Provide adequate worker training.
- Use proper personnel protective equipment.
- Follow fire protection measures.
- Arrange availability of appropriate emergency response, rescue, and first-aid personnel and services.

6.3. Emergency Response Plan

Emergency may be defined as a sudden event causing or has the potential to cause serious human injury and /or environmental degradation of large magnitude. The best "cure" for an emergency is, of course, "prevention".

The probable emergency situation can be:

- Serious fire or explosion
- Spillage of large quantity of acid/solvent or major fuel leakage.
- Natural calamity such as heavy rain, flooding, dust storm or earthquake, etc.
- Bomb threat or any sabotage / terrorist activity
- Any other incident involving all or large part of the premises and its workers.

Project-specific Emergency Response Plan will be developed which primarily relates to the different activities of the Project as well as risks and hazards identified in EIA. It supports the EMP and addresses actions and required responses all Coca- Cola personnel, employees and contractors.

Emergency response management will be provided by a small team of senior managers (the control committee) who in turn will direct all response activities through the Emergency response unit, plant security, communications, public relations, safety and environmental affairs and material procurement departments. Each of these departments will have specific responsibilities to perform in the event of an emergency.

When the Emergency Response Plan is put into effect, Terminal Personnel will assume designated positions, each with specific duties as depicted in the following chart.

A- **Objectives:** The main objective of this plan is to establish the general guidelines for actions to be taken in the event of fires, explosion, emergencies, accidents or hydrocarbon spills/leaks and spills of process chemicals, natural disasters and sabotage, aimed at minimizing their effects and consequences, in order to protect:

The physical integrity or the lives of own or third-party personnel present in the company's facilities.

- The physical integrity or the lives of the residents of the geographical areas near the project's area of influence.
- The physical integrity of the Company's properties or assets.
- The physical integrity or the lives of the ecological systems located in the surroundings of the company's facilities.

The Contingency Plan will be applied in the process area, the natural gas receiving area, fuel storage and dispatch, industrial services and administration in view that they are not located in the area of influence.

A complementary objective is to establish the **Notification Procedure** to be followed between Company personnel and with Government Entities.

B- Risk Situations: Due to the characteristics of the project, the contingencies that could arise are the following:

Once received, the fuel will undergo the following processes: compression, storage, and dispatch.

Due to the characteristics of the project, the contingencies that could arise are the following:

C- Internal Risks: Risks arising from operational conditions or human error that could result in personal accidents, spills or fires, such as:

- Uncontrolled leak into the environment.
- Fire / explosions.
- Hydrocarbon or by-product spills (petrol, diesel).
- Chemical product spills
- Occupational accidents (serious or fatal), due to product contamination, failure to comply with operating rules and procedures, negligence of the personnel, falls, internal traffic accidents, burns, acts of God, bad use of equipment and personal protection items.
- Environmental Contamination (due to leaks into the environment, product spills on land).

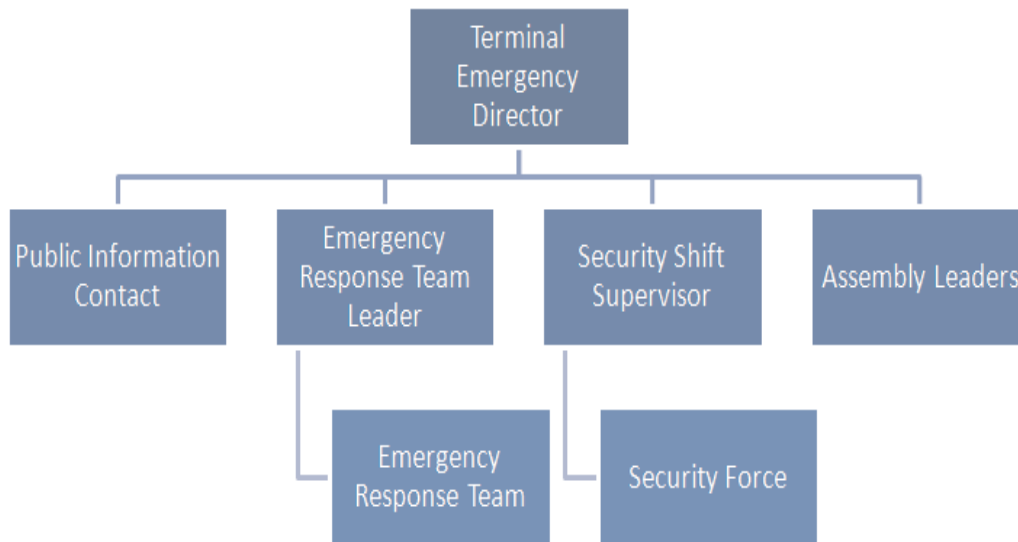


Figure 4: Emergency Organization

D- Natural Risks: Natural risks that may affect the facilities and their resulting damage to property and the personnel.

- Strong earthquake / earth tremors
- floods

E- External Risks: Risks arising from delinquent actions, or vandalism.

F- Personnel Transportation Risks: All personnel of the Plant must be instructed that in the event of automobile accidents while the personnel is being transported to/from the Plant, using own or third-party transportation contracted by the company, they must immediately notify Coca Cola so that it will provide the necessary assistance for the injured, and proceed to issue notices not only to the health care centers but also to external support institutions (Nampol, Windhoek Municipal Police, Fire Fighters, etc.).

G- Risk Management: The management of contingencies at the plant is based on:

- Early detection (alarms, detectors, setting off of safety elements);
- Immediate automatic reaction (feed shutoff valves, either of the fluid, electric process or other).
- Confinement of emergency area.
- Application of the adequate response procedure
- Follow-up and monitoring
- Schedule maintenance

H- Evacuation Plan: The following alarm signal(s) will be used to begin evacuation of the facility (check all which applies):

- Bells
- Horns/Sirens
- Verbal (i.e. shouting)
- Other (specify)
- Evacuation map is prominently displayed throughout the facility.

Note: A properly completed Site Plan satisfies contingency plan map requirements. This drawing (or any other drawing that shows primary and alternate evacuation routes, emergency exits, and primary and alternate staging areas) must be prominently posted throughout the facility in locations where it will be visible to employees and visitors.

I- Emergency Contacts*:

Fire/Police/Ambulance	
Phone No.	
Ministry of Environment	
Phone No.	
Nampol	
Phone No.	
Windhoek Municipal Police	
Phone No.	

I- Emergency Procedures:

i- Emergency Coordinator responsibilities:

(a) Whenever there is an imminent or actual emergency situation such as an explosion, fire, or release, the emergency coordinator (or his/her designee when the emergency coordinator is on call) shall:

- Identify the character, exact source, amount, and areal extent of any released hazardous materials.
- Assess possible hazards to human health or the environment that may result from the explosion, fire, or release. This assessment must consider both direct and indirect effects (e.g. the effects of any toxic, irritating, or asphyxiating gases that are generated, the effects of any hazardous surface water run-off from water or chemical agents used to control fire, etc.).
- Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel.
- Department of Civil Protection in the President’s Office as well as the Ministry of Environment and Tourism(MET)
- Notify the City of Windhoek as well as Fire Brigade/Emergency Services
- Monitor for leaks, pressure build-up, gas generation, or ruptures in valves, pipes, or other equipment shut down in response to the incident.
- Take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous materials at the facility.

(b) Before facility operations are resumed in areas of the facility affected by the incident, the emergency coordinator shall:

- Provide for proper storage and disposal of recovered waste, contaminated soil or surface water, or any other material that results from an explosion, fire, or release at the facility.
- Ensure that no material that is incompatible with the released material is transferred, stored, or disposed of in areas of the facility affected by the incident until cleanup procedures are completed.
- Ensure that all emergency equipment is cleaned, fit for its intended use, and available for use.
- Notify the City Fire Department that the facility is in compliance with requirements above.

ii- Post-Incident Reporting/Recording: The time, date, and details of any hazardous materials incident that requires implementation of this plan shall be noted in the facility's operating record.

Within 15 days of any hazardous materials emergency incident or threatened hazardous materials emergency incident which triggers implementation of this plan, a written Emergency Incident Report, including, but not limited to a description of the incident and the facility's response to the incident, must be submitted to the MET.

The report shall include:

- Name, address, and telephone number of the facility's operator;
- Name, address, and telephone number of the facility;
- Date, time, and type of incident (e.g. fire, explosion, etc.);
- Name and quantity of material(s) involved;
- The extent of injuries, if any;
- An assessment of actual or potential hazards to human health or the environment, where this is applicable;
- Estimated quantity and disposition of recovered material that resulted from the incident; Cause (s) of the incident;
- Actions taken in response to the incident;
- Administrative or engineering controls designed to prevent such incidents in the future

J- Training: Check all boxes which apply.

i- Personnel: General workers will be trained as per following procedures:

ii- Chemical Handlers: Chemical Handlers will be annually trained in the following manner:

iii- Emergency Response Team: Members are capable of and engaged in the following:

K- Emergency Response Training: Develop and practice a spill clean-up procedure including where to find emergency equipment and how to use it. Make sure all people on site are aware of emergency telephone numbers to call in the case of a large spill. Spill kit equipment on site should include: booms to contain liquids, material to prevent spills into drains, and material to absorb spills. Keep this absorbent material in a clearly labeled and easily accessible place.

PERSONNEL TRAINING PROCEDURES

- Internal alarm/notification
- Evacuation/ re-entry procedures & assembly point locations
- Emergency incident reporting
- External emergency response organization notification
- Location(s) and contents of Emergency

CHEMICAL HANDLING TRAINING PROCEDURES

- safe method for handling and storage of hazardous materials

- Location(s) and proper use of fire and spill control equipment
- Spill procedures/emergency procedures
- Proper use of personnel protective equipment
- Specific hazard(s) of each chemical to which they may be exposed, including route of exposure(i.e. inhalation, ingestion, absorption)
- Hazardous waste Handlers/Managers are trained in all aspects of hazardous waste management specific to their job duties (e.g. manifesting requirements, etc.)

EMERGENCY RESPONSE TRAINING PROCEDURES

- Personnel rescue procedures
- Shutdown of operations
- Use, maintenance, and replacement of emergency response equipment
- Refresher training which is provided annually
- Emergency response drills which are conducted at least quarterly

L- Response levels: Two levels of response must be contemplated:

- With own personnel
- With external government cooperation, such as Fire Fighters, NaMPOL, City of Windhoek, etc.

M- Response Strategy: Upon the occurrence of the emergency, the Plan will be developed under the following conditions:

- First Stage: Notification
- Second Stage: Initial assistance/rescue
- Third Stage: Response operations
- Fourth Stage: Evaluation of the Plan and damages

TABLE 1: EMERGENCY EQUIPMENT INVENTORY

EQUIPMENT CATEGORY	EQUIPMENT TYPE	LOCATION	DESCRIPTION
Personal Protective Equipment, Safety and First Aid Equipment	<ul style="list-style-type: none"> ▪ Cartridge Respirators ▪ Chemical Monitoring Equipment (describe) ▪ Chemical Protective Aprons/Coats ▪ Equipment Chemical Protective Boots ▪ Chemical Protective Gloves ▪ Chemical Protective Suits (describe) ▪ Face Shields ▪ First Aid Kits / Stations (describe) ▪ Hard Hats ▪ Plumbed Eye Wash Stations ▪ Portable Eye Wash Kits (i.e. bottle type) ▪ Respirator Cartridges (describe) ▪ Safety Glasses / Splash Goggles ▪ Safety Showers ▪ Self-Contained Breathing Apparatuses (SCBA) ▪ Other (describe) 		

Fire Extinguishing Systems	<ul style="list-style-type: none"> ▪ Automatic Fire Sprinkler ▪ Systems Fire Alarm Boxes / Stations ▪ Fire Extinguisher Systems (describe) ▪ Other (describe) 		
Spill Control Equipment and Decontamination Equipment	<ul style="list-style-type: none"> ▪ Absorbents (describe) ▪ Equipment and Berms / Dikes (describe) ▪ Decontamination (describe) ▪ Equipment Emergency Tanks (describe) ▪ Exhaust Hoods ▪ Gas Cylinder Leak Repair Kits (describe) ▪ Neutralizer (describe) ▪ Over-pack Drums ▪ Sumps (describe) ▪ Other (describe) 		
Communications and Alarm Systems	<ul style="list-style-type: none"> ▪ Chemical Alarms (describe) ▪ Intercoms / PA Systems ▪ Portable Radios ▪ Telephones ▪ Underground Tank Leak Detection Monitors ▪ Other (describe) 		
Additional Equipment (Use Additional Pages if Needed)			

i- First Stage: Notification

Internal Communication: Radio communication systems, channels and frequencies will be established for the command post, alternative posts and for the personnel that forms part of the response Brigade.

Furthermore, message forms will be established to record at least the following information:

Name of informant, location and place of the emergency, number of people affected and, if possible, an estimate of the type of injuries and/or damages, among others.

External Communication: In the event of spills, leaks or discharges, relevant authorities must be informed through the fastest means: telephone and fax;

- Local Authorities will be advised by telephone.
- In the case of serious or fatal accidents, the Government and the Nampol will be notified in coordination with the Legal Counsel.
- The relatives of the injured person, as soon as he is evacuated to a hospital.
- To the extent possible, the press will be notified after the accident has been investigated and by the person designated by Management.
- In the case of an accident that has affected the facilities; the Insurance Company will be notified accordingly

7. RESPONSIBILITIES, TRAINING AND COMMUNICATION

7.1. Responsibilities:

The roles and responsibilities of Coca Cola Project Manager, the Engineer, the environmental inspection/quality assurance team, the contractors, all EMP holders and all personnel will be defined in this section. An organizational chart of the Consumer Fuel Terminal Project Environmental Management Roles and Responsibilities will be included in this section.

7.1.1. General Manager (Operations)

Environmental management plan will be regulated by the General Manager (Operations) of Coca-Cola Bottling Company Namibia. Some of the key role and responsibilities are described below:

- To consider and react to issues and solutions proposed by the HSE department.
- To cooperate and consult with relevant environmental agency in order to perform in better way.
- To approve any change in decision making and authorities in consultation with Manager HSE, if appropriate.

7.1.2. HSE Manager

The role of HSE manager is vital. The success of an EMP always depends on Proper and effective management provided by HSE manager.

Following are some of the roles and responsibilities given should be provided by HSE manager:

- To identify issues and where possible propose solutions for inclusion in the management plan review process.
- To ensure that the points of view of staff, contractor and HSE officers are considered and placed in the EMP accordingly.
- To improve coordination and exchange of information between top management, employees, contractors etc.
- To contribute towards the actions to deliver the management plan and ensure its continual development.
- To review EMP every year under the supervision of top management, taking issues and change EMP accordingly with the solutions and suggestions.
- To monitor the progress, development and implementation of this management plan.

7.1.3. HSE Officer

The role of HSE manager will be empowered by HSE manager. The superficial responsibilities which an HSE officer will have to perform include:

- To integrate, as far as possible, the aims and objectives of different users within an agreed plan.
- To maintain balanced, holistic approach to the solution of concerned issues in accordance with the compliance to the legislative requirements.
- To provide professional guidance on questions relating to the environmental management and issues raised by contractors/relevant personals.
- To progress the EMP process through development towards implementation.

7.1.4. Construction Contractor

On behalf of chief construction contractor, the main responsibilities for all matters pertaining to environment will be looked after by field Construction Contractor and he will be responsible to report directly to HSE Manager. Major roles to be performed by construction contractor are given below:

- To carry out construction activities in environmentally sound manner.
- To coordinate with the HSE officer to resolve issues arise during construction phase.
- To manage construction crew and reduce the environmental impacts.
- To appoint a dedicated environment officers that will understand and tackle environmental issues more easily.
- To discuss weekly progress report with HSE Manager and issues concerned to environmental management.

7.1.5. Environmental Inspector

- An Environmental Inspector (EI) is responsible to supervise the environmental compliance and inspection process.
- Environmental inspector is also responsible to communicate with Environmental manager and the chief constructions officers.
- Environmental inspector provide key liaison role in coordinating attendees and facilitating agreements in the field, as appropriate, with agency representatives.
- Coordinate daily with construction inspectors, the contractor, when construction activities are scheduled in all requiring monitors.
- The EI will play a significant role suggesting methods to bring construction activity into compliance and/or to temporarily halt certain activities that may cause damage to sensitive environmental resources.
- In addition to these responsibilities, the environmental inspector contributes to the Environmental Management Team by developing swift and innovative solutions to unanticipated environmental issues which develop during construction.

7.1.6. Site (Operation) Manager

- The site manager is responsible and accountable for the site's HSE performance.
- Establishes, implements, and maintains a formal written plant-HSE program that encompasses applicable areas of loss prevention and is consistent with corporate policy.
- Establishes controls to assure uniform department performance to the HSE management system. The establishment of controls should include corrective action and follow-up. Develops, by action and example, a positive HSE culture and a clear understanding of specific responsibilities for direct reports.
- Approves and adopts local HSE policies, rules and procedures.
- Chairs the Executive HSE Committee (or its equivalent).
- Personally investigates fatalities, serious Lost Workday cases, environmental incidents or major property losses.
- Assigns management members to serve on various HSE committees.
- Reviews monthly HSE activity report and performance statistics.
- Reviews Lost Workday Injury/Illness Investigation Reports.
- Reviews loss-control reports submitted by outside agencies.
- Makes plant-HSE audits on a regular basis in order to appraise program effectiveness and to correct and reinforce behavior.
- Reviews annually the program effectiveness and makes adjustments where necessary.

- Evaluates the functional performance of the HSE staff and provides guidance training where necessary.
- Personally reviews, signs, and approves of corrective action planned for Lost Workday cases.

7.1.7. Department Manager (Department Head; Area Superintendent)

- Contacts each supervisor/foreman/lead person frequently (daily) on HSE.
- Includes HSE as a meeting topic in staff meetings.
- Makes daily observations of supervisor/foreman/lead person's HSE activities.
- Reviews and approves all job procedures growing out of Job Safety Analysis; installs approved procedures; requires direct reports to check on use of procedures.
- Approves all departmental HSE rules and regulations and reviews annually; maintains strict enforcement; and develops plan to ensure employee instruction and reinstruction.
- Establishes acceptable housekeeping standards, defining areas of responsibility; assigns areas to supervisor/foreman/lead persons; makes daily spot check of some area; holds formal inspection with supervisor/foreman/lead persons at least once per month; submits written report with assignments and deadlines for correction.
- Authorizes purchases of tools and equipment to comply with plant specifications and governmental regulations as required.
- Develops an indoctrination plan, which includes specific job instruction, for new or transferred employees; issues protective equipment and follow-up checks by supervisor/foreman/lead persons.
- Reviews the HSE performance of his area of responsibility.
- Personally investigates all "Lost Workday" cases and significant losses and reports to plant manager. Follows-up on corrective action.
- Adopts standards for assigning protective equipment to employees; insists upon strict enforcement; and makes spot field checks to determine compliance. Also reinforces safe behavior.
- Evaluates supervisor/foreman/lead persons' HSE performance.
- Develops strong HSE culture and a clear-cut understanding of specific duties and responsibilities in each member of management.

7.1.8. Supervisor/Foreman/Lead Person

- Makes daily safety observations of the work area and corrects unsafe behavior and reinforces safe behavior.
- Arranges for development of job safety analysis; reviews all job safety analysis; and submits to department manager for approval.
- Develops a workable housekeeping program, defining areas assigned to work teams; makes daily spot checks of an assigned work area; makes periodic housekeeping inspections, reporting results of inspection to department manager and indicating condition and corrective action.
- Ensures the indoctrination of new or transferred employees.
- Develops protective apparel requirements, according to occupation; and makes spot fields checks to determine compliance.
- Reports all injuries or illnesses of employee to department manager as soon as practical; reviews Accident Report with employees and, in case of injury, submits reports to department manager after taking corrective action.
- Makes thorough investigation of all accidents and serious incidents occurring to employees in assigned work area; makes personal inspection; and develops preliminary information.

- Conducts scheduled and assigned HSE training meetings.
- Participates on HSE committees as specified by plant policy.
- Reviews unsafe conditions and unsafe behavior and directs daily HSE activities to correct these causes.
- Instructs employees in HSE rules and regulations; records instruction; and enforces all HSE rules and regulations at all times.
- Makes daily inspections of assigned work area and takes immediate steps to correct unsafe or unsatisfactory conditions; reports to department manager those conditions which cannot be immediately corrected; instructs employees on housekeeping standards.
- Instructs each new employee personally on job HSE requirements in assigned work areas.
- Enforces the plant's medical department recommendations with respect to an employee's physical limitations; reports an employee's apparent physical limitations to department manager.
- Enforces wearing of protective equipment; makes spot checks to determine that protective apparel is being used; and makes periodic checks to appraise condition of equipment.
- Sees to it, in case of serious injury, that injured employee receives prompt medical attention; isolates area or shuts down equipment, as necessary; and immediately reports to the department manager the facts regarding employee's accident or illness and the action taken. In serious incident cases, the supervisor/foreman/lead person determines cause, takes immediate steps to correct condition, and isolates area and/or shuts down equipment, as necessary.

Supervisor/foreman/lead person immediately reports facts and action taken to the department manager.

- Checks changes in operating practices, procedures and conditions at the start of each shift and before relieving the "on-duty" supervisor/foreman/lead person, noting facts related to HSE which have occurred since his last working period.
- Makes, at the start of each shift, an immediate check to determine absentees. If plant injury is claimed, an immediate investigation is instituted and department manager notified.
- Makes daily spot checks and takes the necessary corrective action regarding housekeeping; spills and storage of hazardous waste & materials; unsafe behavior or practices; unsafe conditions, tools, ladders, wire rope, chains, clevises, pins, spreaders, etc.; job procedures, and adherence to HSE rules.
- Instructs personally or provides on-the-job instruction in HSE and efficient performance of assigned jobs.
- Takes action on all employee HSE complaints and suggestions.
- Maintains HSE signs and bulletin boards in a clean and legible condition, in assigned area.

7.1.9. HSE Supervisor/Manager

- Provide overall coordination and guidance to the site HSE efforts.
- Develop programs that are designed to reduce exposure to loss via personal injury or illness, loss by fire, loss due to spill of hazardous materials or waste, and comply with governmental regulations.
- Supervise and coordinate the efforts of the HSE department staff.
- Collaborate on a routine basis with the site manager in appraising the performance of all departments.
- Develop recommendations for improvement of procedures, practices and activities directly or indirectly involved in effective execution of HSE functions by site management.
- Advise and/or represent site management in all matters concerning compliance with EMA regulations.
- Audit the site from a regulatory and management system perspective and recommend actions to address deficiencies.
- Maintain membership in necessary outside HSE organizations.
- Participate in the review of all serious incidents, fatalities, and major disasters.

- Collaborate with the site manager in the development and preparation of Executive HSE Committee Meeting agenda.
- Serve as a member of site committees for special HSE studies and program development.
- Consult with the Engineering department on original plans; see that all plans and specifications for new or proposed changes in processes, equipment or methods are reviewed from compliance with HSE standards before being accepted.
- Function as liaison with insurance companies, Corporate HSE, local fire and rescue organizations, etc.
- Provides leadership to the site for the implementation of new technologies such as behavioral-based safety management concepts.
- Reinforces safe behavior and corrects unsafe behavior.

7.1.10. J-HSE Coordinator

- Assist the site manager in coordinating all HSE activities.
- Reinforces behavior and corrects unsafe behavior.
- Be constantly alert for unsafe conditions and bring such conditions to the attention of the supervisor and, if necessary, the site manager, without delay.
- Participates on the site's Executive HSE Committee.
- Accompany outside inspectors representing insurance carriers of fire, casualty, and workers' compensation insurance.
- See that HSE promotional and reference literature, such as monthly handouts, are available.
- Be thoroughly familiar with company HSE standards and assist the site manager in implementing them.
- Maintain injury and incident statistics.
- Assist the site manager in analyzing incident records, develop supervisory and employee educational programs and stimulate a high

8. TRAINING

It's an important step for the implementation of the EMP. All the employees will require to be trained to work appropriately on EMP. Training coordinator will organize trainings in consultation with HSE Officer. It will make sure that employees understand the issues associated with the proposed activities. Trainings should be arranged on regular basis with notification that it should be attended all respective employees. HSE Officer will determine the training requirements during both construction and operation phases.

Induction will be the basis of all training courses for contractor and subcontractor during construction phase. Trainings identified in EMP are given below:

- Site induction course
- Training for emergency response and preparedness
- Training for familiarization with site environmental controls
- Specific environmental training for relevant employees e.g. installing erosion and sedimentation controls, daily checks to maintain controls, cleaning up spills, waste minimization.

The Plant and Terminal will have (i) Distributed Control System to monitor and control the plant process and operation, (ii) Fire and gas detection and alarm system, and (iii) an emergency shut off system. Each of these systems will be separated from each other, to provide data and communication transmission.

A permanent firefighting system will be installed, which shall include firefighting water, foam generators and CO2 extinguishers. The personnel will be trained in the use and operation of said systems. Equipment such as fire trucks, firefighting equipment, medical hospital equipment, ambulances and environmental protection and spill control equipment will also be provided so that they will be available in the event of an emergency.

The aim is to instruct all personnel on the operation of this equipment and on the procedure to be followed in the event of spills, fire or explosions.

A- Personnel training: Both the personnel in charge of unloading operations at the terminal are conveniently trained to carry out their work and respond to any emergency.

i- Identification of training requirements

a) Procedure to respond to a spill

- Any spill originating from a connection hoses, will be immediately be ported to the Safety Manager.
- Unloading operations must be immediately halted in coordination with the trucks.
- Every possible ignition source in the area must be eliminated.
- If a spill occurs the plan must be always activated because there is a possibility that the product might spill into the nearby water bodies, or there may be other situations that could jeopardize other facilities within the Terminal.
- Containment equipment must be readily available to contain as much as possible the spill of the product onto the wharf or adjacent areas.

b) Procedure to respond to a spill on the ground

- The area must be isolated and unauthorized people should not be allowed to enter the spill site.
- Every possible effort should be made to stop the spill, if at all possible, without running any major risks.
- Every possible effort should be made to contain the spill and thus prevent the spill from spreading on the ground. In this case, makeshift dams will be constructed or containment booms will be installed, if possible.
- For large spills, every possible effort should be made to contain the spill with makeshift dams or fences, or with absorbent material or containment booms, in order to then be collected.
- Flammable substances that could explode or catch fire, located in areas surrounding the spill, should be taken out of the area.
- Basic fire-fighting procedures.
- Three basic procedures should be borne in mind in fighting a fire.
- Fuel should stop being supplied (valves should be closed, transfers should stop, etc.).
- Air should not come into contact with the fuel; therefore, the fire area should be covered with foam.
- The heat produced by the evaporation of the product should be eliminated, because vapour is combustible, and water is the most effective agent for this purpose.
- To control any fire at the Terminal, the first step will be to isolate and evacuate the area,
- besides taking the following precautions:
 - Remove all containers from the area exposed to fire and heat, if it is possible to do it in a safe manner.
 - Cool the sides of the containers that are exposed to the flames or heat, using water.

- If the fire is intense in the loading areas, support-mounted hoses operated at a distance or monitor guns should be used.

d) Procedures for flammable substances (methane).

To respond to a seepage involving a flammable product, the following steps should be taken:

- Isolate the area.
- Eliminate every source of ignition in the area.
- Use duly grounded armored equipment in the Hot Area.
- Try to seal the seepage, if it is possible to do it in a safe manner.
- Try to contain the product to prevent it from filtering into drainage networks or other places.
- Monitor flammability indices in the risk area to analyze the need to isolate a broader area.
- Remove the product with absorbent material or other mechanical means in order for wastes to be properly disposed of.

e) Procedures for toxic substances: In situations involving the seepage of liquid substances classified as toxic, the most important thing to do is to wear appropriate breathing equipment.

If there is any doubt regarding the concentration of the substance in the environment, breathing equipment that affords the highest possible protection will be worn, that is, self-contained compressed-air breathing masks and appropriate clothing.

In addition, the following steps will be taken:

- Isolate and evacuate the area that poses a danger immediately.
- Try to seal the seepage, if it is possible to do it in a safe manner.
- Try to contain the product to prevent it from filtering into drainage networks or other places.
- Permanently monitor the concentration of vapors in the risk area to analyze the need to isolate a broader area.
- Remove the product with absorbent material or other mechanical means in order for wastes to be properly disposed of. Decontaminate all clothing, equipment, materials and areas reached by the product.
- In addition to the above training, workers should be aware of the following:

ii- Operations involving oily substances

a) Person in charge: The person in charge of the plant will personally supervise all operations involving oily substances. Said person will closely cooperate with and remain in close contact with the person in charge of the loading of oily substances in the vessel and with the wharf personnel.

b) During loading operations: Loading will begin at the minimum pumping rate, in order to be able to quickly stop the supply if there is any problem. The pressure of supply pipes will be checked to make sure that the maximum working pressure is not being exceeded. The hydrocarbon supply tank will be frequently measured.

Upon completion of loading operations upon completion of loading operations, and once all flexible pipes have been drained, a drip tray will be left below the flexible pipe connections, when loading hydrocarbons. Flanges will then be disconnected and a blind flange will be installed on one end of the hose.

iii- Check list

a) Before loading Hydrocarbons

- There should be a clear signaling system in place to report the commencement of loading operations, reduction in the loading rate, the end of loading operations, and emergency shutdowns.
- Blind flanges should be connected to all valves that are not going to be used.
- High-capacity drip trays should be placed below pipe connections.

- Flexible pipes and loading arms should be in a good condition, properly connected, and correctly supported.
- There should be sufficient and readily available absorbent material in place.
- The valve in the tank where the product is to be loaded should be open and duly aligned.

b) While loading Hydrocarbons

- There should be no leaks in flexible pipes or pipe connections.
- The reduction in the pumping rate during the last phase of loading operations should be reported well in advance.
- Proper notice should also be given when loading operations are intended to be brought to a full halt.
- Sufficient room should be left in the tanks in order to be able to drain flexible pipes and the entire pipeline system used in the respective loading operations.

c) Upon completion of loading operations, check whether:

- Distribution valves have been closed.
- Flexible pipes and loading arms have been drained before being disconnected.
- Blind flanges have been installed in the aforesaid pipes.
- The valves in the loading system have been closed, including intakes in the hydrocarbon

iv- Training schedule: As part of its policy, emergency drills will be carried out at least twice a year, which will allow the personnel to carry out and learn the actions they must take and the attitude they must have in the face of real emergency situation. During training, consideration of following areas of knowledge and experience are essential:

- Appreciation of properties of hazardous substances e.g., toxic, flammable, reactive etc., as well as, levels at which they pose a considerable menace requiring protective measures.
- Knowledge of early-warning indicators, hazard/risk identification and ability to recognize potentially hazardous situations.
- Acquaintance with engineering control to evade the incidence of hazardous situations.
- Familiarity with capability and restraints of facility to respond the hazardous emergencies, ventilating systems, plumbing systems, shut off systems, containment strategies and emergency response measures.
- Awareness of use, repair/ maintenance of emergency response equipment's as well as routine equipment to health and safety monitoring and protection.
- Awareness of methods and trials for decontamination personnel equipment and facility following potential chemical contaminations.

9. COMMUNICATIONS

For effective monitoring, management and documentation of the environmental performance during the operation, the Health, Safety and Environmental (HSE) matters will be discussed during daily meetings held on site.

Environmental concerns raised during the meetings will be mitigated after discussions between the HSE officer and the contractor. Any issues that require attention of higher management of Coca Cola will be communicated to them for action. The HSE officer and the contractor will also prepare a weekly

environmental report. Duplicates of the report will be provided to the higher managements of Coca Cola and of the contractor. Communication will play a vital role in good management practices. Steps given below will assist in effective communication and documentation.

A- Kick-off Meeting: The aim of organizing the kick-off meeting is to define the environmental responsibilities, awareness to EMP to the managing staff and to streamline the work plan according to the EMP. This meeting will be arranged prior to commencement of activities.

B- Quarterly Meetings: Initially quarterly meetings will be held after kick-off meeting however if situation demands for monthly meetings, it will be rearranged accordingly. Aim of this meeting is to review the progress of activities performed, explore ideas and problems, and discuss about the progress in acquisition and analysis of information. Deadlines are re-evaluated in it and if necessary, the project program is revised in these meetings.

C- Peer Review: The aim of this review is to predict and modify the conclusions and interpretation of assessment phases in the light of other professional opinions that mainly not involved in the proposed project, but just for the provision of a critical appraisal of the style and expression of documentation produced.

D- Minutes of Meetings: In the end of quarterly meetings, minutes will be issued which comprises of the discussion made in the meeting, issues discussed and decisions taken with the time frame for their implementation. Main points of minutes for general employees may be incorporated in the record register. These meeting minutes will also be provided to the higher authorities of Coca Cola and the contractor for their own record.

10. REGULATORY REQUIREMENTS

10.1. Approvals, Authorizations And Permits:

This EMP has been structured so as to provide its various intended recipients (Developer, ER, consulting engineers and contractors) with mitigation measures immediately applicable to their respective scopes of work. The management requirements for the various recipients carrying out work for this project are divided according to the main project phases:

The list of potential approvals, authorizations and permits required for the Project from various agencies are given below:

10.2. Environmental Quality Objectives

This section will outline criteria for management's quality objectives related to generation of solid waste and wastewater quality, air and noise quality. The management of Coca Cola shall make Environmental Objectives every year and try to complete them in the stipulated time frame.

This will also include any applicable treatment criteria meeting the Environmental Management Act (7 of 2007), and its Regulations.

10.3. Compliance Monitoring

It would be required by the management of Coca Cola to comply with the Environmental Monitoring Plan laid in the subsequent section. The compliance shall also required periodic reporting of the monitoring results in form of report submitted to the MET. During the construction phase, it will be on bimonthly basis and during the operation phase it will be done on quarterly basis.

It is also understood that monitoring shall be done by an independent consultant/ organisation. It would be further required to make the annual environmental report public as laid under the Equator Principles. Equator Principles (EP) requirements were taken care off in this EIA report and it is one of the mandatory requirement of EP to report all the stakeholders and announces their EHS performance publically at least once a year.

11. STANDARD OPERATING PROCEDURES (SOPs)

11.1. Supply Tankers / Trucks Operations

A- Purpose

- To achieve the desired productivity.
- To delineate the method for handling of cargo from and to tankers / trucks efficiently, effectively and safely.

B- Scope: This procedure applies to all tankers / trucks calling the terminal.

C- Definitions: A tank truck, gas truck, fuel truck, or tanker truck (United States usage) or tanker (United Kingdom usage), is a motor vehicle designed to carry liquefied loads, dry bulk cargo or gases on roads. The largest such vehicles are similar to railroad tank cars which are also designed to carry liquefied loads. Many variants exist due to the wide variety of liquids that can be transported. Tank trucks tend to be large; they may be insulated or non-insulated; pressurized or non-pressurized; and designed for single or multiple loads (often by means of internal divisions in their tank). Some are semi-trailer trucks. They are difficult to drive due to their high center of gravity (Wikipedia, 2019).

D- Procedure

Information Required: Transporting efficiency is highly dependent upon the quality and timing of information made available to the Terminal Planning Section. This section is responsible for, amongst other activities, load sequences.

11.2. Wastewater/ Storm Water Management

A- Purpose Of Wastewater/Storm Water Management: The purpose of the adopted procedure is to provide guidelines and simplify the process of categorizing, quantifying, managing, and disposing of wastewater wherever and whenever arising during the project's construction and operation phase. Wastewater management is a critical component of company's operating policies. Wastewater management includes the proper disposal / recycling and reuse of the wastewater generated during construction and operation phase. The procedure is designed to assist in a company's wide effort to provide protection for the environment and to comply with company's corporate requirement, environmental laws and regulations regarding proper wastewater management.

B- Scope: Wastewater as part of drilling and construction, production shall be managed as per this procedure. An integrated wastewater management system for the storage terminal is essential to reduce wastewater. Substitute techniques must be investigated, including source reduction, recycling and reuse wherever possible with a view towards maximizing the benefits and minimizing the cost of each method of wastewater management.

Guidelines for proper handling, categorization, recording, minimization, and disposal of all types of wastewater associated with company operations and projects are part of this procedure that need to be documented. This procedure shall be followed at all construction sites by all company personnel and contractors working for this proposed project.

C- Definitions

(i) Wastewater: Any water arising after use/ consumption shall be including of liquid waste discharged by domestic residences, commercial properties, industry, and/or agriculture and can encompass a wide range of potential contaminants and concentrations. In the most general terms, it refers to the municipal wastewater that contains a wider range of pollutants arising due to the mixing of wastewaters from different sources.

(ii) Hazardous Wastewater: Plant wastewater comes in the category of hazardous wastewater. If it has one or more of the following properties:

- Oily water
- Toxicity (may cause risk of injury to health of organisms or the environment)
- Concentration of contaminants too high above safe acceptable limits

(iii) Non-hazardous Waste: The wastes are categorized as non-hazardous wastes, if they do not possess any of the hazardous contaminant mainly comprising of consumed water arising from washing area and sanitary wastewater.

D- Procedure: Main concern to manage the wastewater is listed below:

- Eliminate wastewater production wherever possible.
- Minimize wastewater production.
- Recycle or Reuse
- Wastewater disposal in an environmentally safe manner through adequately designed facility

i- Wastewater Minimization: Generation of wastewater will be minimized through the following steps taken by working personnel at the facility:

- Through efficient use of raw water (minimizing the wastewater).
- Extensive management schemes will be formulated for both phases during construction and operations (water management).
- It is expected that segregated and /or treated wastewater will be made available for subsequent use during operations phase (recycling and reuse).

ii- Storage and Handling: Wastewater shall be stored / retained in lined ponds or storage tanks till proper onsite treatment or remote disposal.

iii- Recycling: Reuse of wastewater is a best way to reduce the quantity of the wastewater that requires subsequent treatment and disposal.

Table 2: Wastewater Data Sheets Guidelines for Wastewater Management

Plant Wastewater	
Description	<ul style="list-style-type: none"> • General water from washings, etc.
Components	<ul style="list-style-type: none"> • Water • Total Dissolved Solids (TDS) and total suspended solids • Oil
Waste Category	Non-hazardous
Analysis	Refer Monitoring procedure for analysis requirements
Ownership / Responsibility	Production Team Leaders
Accumulation/ Storage	Stored in lined ponds or storage tanks till proper disposal
Waste Handling Direct	When handling plant wastewater, protect yourself from contact by using appropriate personal protective equipment
Waste Reduction	<ul style="list-style-type: none"> • Reduce water use
Disposal Options	<ul style="list-style-type: none"> • Recycle free oil back into the production stream • Dispose water into lined evaporation ponds or skim pits • Oily water from yards should be treated in oil/water separator

Table 3: Wastewater Data Sheets Guidelines for Wastewater Management

Water produced from ground sources	
Description strata during the	Water brought up from the hydrocarbon-bearing extraction process.
Components	<ul style="list-style-type: none"> • Formation water • Injected water • TDS • Petroleum hydrocarbons. • Naturally occurring metals. • Additive chemicals.
Waste Category	Non-hazardous may be fairly contaminated
Analysis	Refer Monitoring procedure for analysis requirements
Ownership / Responsibility	Production Team Leaders / Subsurface Operation Team Leader / Well Works Team Leader
Waste Reduction	<ul style="list-style-type: none"> • Use rock plugging with gel slugs to block off water production in completions where there is a separation of the oil and water zones • Dually complete the oil zone and water zone to allow water to be produced simultaneously but separately from oil and allow control of water coning • Carefully plan completions of bored well • Re-perforate / re-inject wells to reduce water production • Drill wells to minimize water production • Optimize production rate to minimize influx of water
Disposal Options	<ul style="list-style-type: none"> • Inject produced water into disposal or injection wells • Reuse produced water whenever possible • Use produced water for hydro-testing pipelines, equipment, tanks,

	well killing and or drilling mud preparation	
Table 2: Wastewater Data Sheets Guidelines for Wastewater Management		
Water produced from ground sources		
Description	Water brought up from the hydrocarbon-bearing strata during the extraction process.	
Components	<ul style="list-style-type: none"> • Formation water • Injected water • TDS • Petroleum hydrocarbons. • Naturally occurring metals. • Additive chemicals. 	
Waste Category	Non-hazardous may be fairly contaminated	
Analysis	Refer Monitoring procedure for analysis requirements EMA Act	
Ownership / Responsibility	Production Team Leaders / Subsurface Operation Team Leader / Well Works Team Leader	
Waste Reduction	<ul style="list-style-type: none"> • Use rock plugging with gel slugs to block off water production in completions where there is a separation of the oil and water zones • Dually complete the oil zone and water zone to allow water to be produced simultaneously but separately from oil and allow control of water coning • Carefully plan completions of bored well • Re-perforate / re-inject wells to reduce water production • Drill wells to minimize water production • Optimize production rate to minimize influx of water 	
Disposal Options	<ul style="list-style-type: none"> • Inject produced water into disposal or injection wells • Reuse produced water whenever possible • Use produced water for equipment, tanks, well killing and or drilling mud preparation 	

11.3. Noise And Air Emissions

A- Purpose: The purpose of this guideline is;

- To monitor contents of polluting substances in the atmospheric air;
- To control observance of approved limiting permissible emissions at man-made sources;
- To monitor natural sources and a number of man-made sources of emission at work sites at the construction phase;
- To monitor noise emissions;
- Sources of noise emissions;

B- Scope

Scope of work include

- Evaluation of present ambient air quality and noise level at existing area.
- Evaluation of impact of impact of traffic movement at the proposed site and noise level.
- Evaluation of impacts on roads and in the adjacent area due to construction and operation.
- Recommendations for mitigation techniques to redress the expected impacts both for design phase and operational phase.

C- Definitions: In common use the word noise means unwanted sound or noise pollution. Excessive noise permanently damages hearing, but a continuous low-level sound can be dangerous too.

D- Procedure: Air emissions (continuous or non-continuous) from facilities include combustion sources for power and heat generation (e.g. for dehydration and liquefaction activities at liquefaction terminals, and regasification activities at receiving terminals), in addition to the use of compressors, pumps, and reciprocating engines (e.g. boilers, turbines, and other engines).

Emissions resulting from flaring and venting, as well as from fugitive sources, Principal gases from these sources typically include nitrogen oxides (NOX), carbon monoxide (CO), carbon dioxide (CO₂), and, in case of sour gases, sulfur dioxide (SO₂). For plants with important combustion sources, air quality impacts should be estimated by the use of baseline air quality assessments and atmospheric dispersion models to establish potential ground level ambient air concentrations during facility design and operations planning.

These studies should ensure that no adverse impacts to human health and the environment result. Emissions of greenhouse gases together with NO_x and SO_x are expected from power generation plants. All reasonable attempts should be made to maximize energy efficiency and design facilities to minimize energy use. The overall objective should be to reduce air emissions and evaluate cost-effective options for reducing emissions that are technically feasible.

The main noise emission sources in fuel facilities include pumps, compressors, generators and drivers, compressor suction/ discharge, recycle piping, air dryers, heaters, air coolers at liquefaction facilities, vaporizers used during regasification, and general loading / unloading operations of carriers.

Atmospheric conditions that may affect noise levels include humidity, wind direction, and wind speed. Vegetation, such as trees, and walls can reduce noise levels. Installation of acoustic insulating barriers can be implemented, where necessary.

E- Noise and air emissions Management Options

Noise and air emissions monitoring includes:

- Strategic environmental planning (e.g., plant siting and fatal flaw analyses)
- Pollution control device feasibility, troubleshooting, and cost evaluations
- Innovative solutions and flexible permitting.
- Regulatory tracking and rulemaking negotiation
- Enforcement assistance, economic evaluations, expert testimony.
- Environmental Management System (EMS) development
- Air permitting such as Prevention of Significant Deterioration (PSD), New Source Review (NSR), and state construction permits
- Air quality modeling and monitoring of air and noise emissions.
- Risk Management Plans
- Emission release inventories (Toxic Release Inventories, Global Warming and Green House Gas Inventories)
- Leak Detection and Repair

- Pollution control technology assessment, emission inventory development, capture efficiency, control equipment performance and equipment specifications and warranties, compliance assessment, non-compliance resolution, negotiation of commercial terms for air pollution and control equipment and control systems, and Development of parametric monitoring, periodic monitoring, and compliance assurance monitoring.

11.4. Erosion Protection Requirements

A- Purpose Erosion Protection: Erosion control projects protect public and private land value and can help reduce sediment pollution by minimizing the degrading effects of erosion. Erosion control projects utilizing natural materials also conserve plant, fish, and wildlife habitat, as well as wildlife access to the land.

Erosion control is necessary at the project sites which are interfacing with land and shore.

B- Scope: Soil erosion by water and wind affects the natural environment. Soil loss, and its associated impacts, is one of the most important, yet probably the least well-known, of today's environmental problems. The scope of this activity is to control the erosion through practice of preventing or controlling wind or water erosion.

C- Definitions: The natural process by which the surface of the land is worn away by the action of water, wind, or chemical action is termed as Erosion.

Erosion protection works are structures or measures constructed or installed to prevent or minimize erosion of in the critical area i.e. is most likely to be the area influenced by the project.

D- Procedure: The best erosion control methods involve the restoration of natural environments. Replanting grasses and shrubs and utilizing biodegradable materials can stabilize soil while enhancing habitats at the same time. Structural barriers, such as bulkheads, compact soil, alter the composition of the land, and often undermine natural ecology.

Mulching - Applying plant residues or other suitable materials, not produced on the site, to the surface of the soil. This application will help conserve moisture; prevent surface compaction or crusting; reduce runoff and erosion; control weeds; and help establish plant cover.

E- Management Options: Adequate management and/or structural best management practices to minimize accelerated erosion prevent sediment pollution to the waters of the coastal area and maintain the resource base. Generally this will require a conservation plan that meets the soil loss tolerance. Soil loss tolerances denote the maximum level of soil erosion that allows high levels of sustainable economic crop productivity.

- Wherever possible, non-structural erosion control measures, such as marsh creation, should be used to stabilize eroding the facilities.
- Where no significant erosion is occurring, structural shore erosion control measures should not be encouraged.
- Structural erosion control measures should only be used in areas designated for this activity and when non-structural measures are impractical or ineffective.
- A conservation plan includes best management practices to address erosion and sedimentation control and protection of the soil resource. In the absence of a complete conservation plan, an erosion and sedimentation control plan consisting of appropriate numbers and locations of sediment removal best management practices, must be developed, installed and maintained.

11.5. Cleanup And Re-Vegetation

A- Purpose

This involves removal of excess excavated material (not used as backfill), restoring the site surface to final contours, and stabilization of slopes. After cleanup, disturbed areas are stabilized, smoothed, mulched, reseeded, and fertilized as required. After construction is complete and cleanup is in progress, temporary erosion controls may be removed and permanent landscaping and erosion control measures installed where required as part of final facility reinstatement. It also involves the conservation of mangroves which will be taken away during construction activity.

B- Scope: Topsoil is segregated from subsoils during this operation. Top soil is stored in temporary topsoil stockpile areas for later use in re-vegetation programs. Regular visual inspection is conducted to monitor the growth of vegetation and to ensure that no erosion occurs on slope areas while the trees and other vegetation get established to protect the slope surfaces. The re-vegetation programs will be continued when necessary.

C- Procedure: To determine the number of protected species if any in or around the construction zone in order to assess damage inflicted on the natural environment through the loss of these species and the damage to their ecotopes in the course of clearing construction sites:

- To determine number of rare species growing within the determined populations in the clearance zone.
- To determine proximity of the rest of the species population to the pipeline route in order to assess the constructions possible impact on the whole of the population.
- To assess the condition of rare species in the impact zone prior to and in the course of the construction, as well as during commissioning of the facilities.

D- Management of Cleanup and revegetation

i- Responsibilities: The site environmental coordinator (SEC) is responsible for verifying that clearing and revegetation is performed in compliance with applicable environmental requirements and specifications.

ii- Instructions: The site environmental coordinator (SEC) will verify that the layout at the facility work area and temporary use areas conform to project.

- The SEC will verify that clearing and revegetation is performed in accordance with construction Specifications, which include requirements for timber removal, slash disposal, and dust control.
- The SEC will verify that all necessary measures are taken to minimise erosion and transport of sediment and silt from graded and disturbed work areas. Erosion control specifications and site specific erosion control plans will be followed to ensure that disturbed areas are stabilised and erosion is minimised to the greatest extent practicable.
- Environmental inspection will be conducted during clearing and grading activities and in coordination with Construction Superintendent.

E- Recording & Reporting: The site environmental coordinator (SEC) will document on a Daily Environmental Inspection Reports (DIR) the progress of clearing and revegetation activities and status of compliance.

11.6. Waste Management Plan

A- Purpose of Waste Management: The purpose of this procedure is to provide guidelines and simplify the process of categorizing, quantifying, managing, and disposing of solid wastes. Waste management is a critical component of company's operating policies. Waste management includes the proper handling, collection,

storage, manifesting, transportation, and disposal/recycling of the solid waste generated. The procedure is designed to assist in a company wide effort to provide protection to the environment and to comply with company's corporate requirement, environmental laws and regulations regarding proper waste management.

B- Scope: The waste management plan has been developed to ensure that the Management of solid waste generated as a result of the construction of the pipeline and associated activities is consistent, efficient, and in conformance with the laws and regulations.

With respect to monitoring, the waste management sets out the following objective:

- To monitor and inspect waste management related facilities and activities directly resulting from executing the scope of the contract in order to ensure compliance with the WMP. Guidelines for proper handling, categorization, recording, minimization, recycling and disposal of all types of waste associated with company operations and projects are part of this procedure.

C- Definitions

i-Waste: Any material, for which no further use is intended, is considered a waste. It can be solid, semi solid or liquid. Additionally, abandoned materials and materials intended to be recycled are considered wastes. It is very important to understand this concept, because even though something is going to be recycled, it must be managed as a waste until it is actually recycled.

ii- Hazardous Waste: Waste is categorized as a hazardous waste if it has one or more of the following properties:

- Ignitability (flash point less than 60 0 C);
- Corrosivity (pH less than or equal to 2.0, or greater than or equal to 12.5);
- Reactivity (inherently unstable under ordinary conditions or when exposed to water);
- Irritability (when in contact with body causes inflammation)
- Toxicity (may cause risk of injury to health of organisms or the environment.)

iii- Non-hazardous Waste: The wastes are categorized as non-hazardous wastes, if they do not possess any of the hazardous characteristics as defined above. However, non-hazardous waste may still present hazards to employees who handle them.

All recommended safety and handling practices must be followed.

D- Procedure: Priorities to manage the waste are listed below:

- Eliminate waste production whenever and wherever possible. Use the material only for its intended purpose on site
- Minimize waste production
- Reuse
- Recycle waste on site.
- Dispose of waste through properly designed

i- Waste Minimization: To minimize waste, the following steps shall be taken by all personnel working on COMPANY sites:

- Only the needed amount of materials shall be ordered. Before purchasing hazardous material, all alternatives for non-hazardous material should be explored.
- Prior consideration shall be given to the sizes of containers available when ordering products that could potentially generate waste. The intent is to avoid unused products and / or their containers from becoming wastes that require special handling.

ii- Waste Categorization: All wastes generated at COMPANY facilities shall be categorized in two major categories (i.e. Hazardous wastes and Non-hazardous wastes). Each category has different types of requirement for handling, storage and disposal.

iii- Labeling

- Name of the waste (e.g., waste oil, solvents).
- Waste category (e.g., toxic, ignitable).
- Facility name and address (disposal site, etc.).
- Date of waste accumulation: (date when waste was placed in drum).
- Wastes are segregated and located in designated areas to optimize control; storage areas.

iv- Segregation: Waste management becomes very complicated if different types of waste are mixed together. A small amount of hazardous waste, mixed with a non-hazardous waste or recyclable material, can make the whole mixture a hazardous waste.

Disposal costs and liabilities for hazardous waste are very high, so it is extremely important to identify wastes and keep them segregated.

The scheme of segregation is as follow:

- All hazardous waste shall be segregated from other types of hazardous wastes as well as non-hazardous wastes at the point of generation of waste.
- At all facilities, following types of containers, with colour coding for easy identification, shall be kept to collect and segregate common wastes:
- Food waste shall be collected in separate containers.
- All containers must be properly and clearly labeled. The label must clearly mention the name or type of waste.

Also, if the waste is hazardous, it should be clearly labeled on the container along with its hazardous characteristics (e.g. flammable, toxic, radioactive, etc.). This is important to workers and to emergency response teams, who need to know what they are dealing with. Missing or unreadable labels must be replaced.

v- Storage and Handling

- Waste that will be sent for recycling or off-site disposal shall be temporarily stored at waste storage facilities available at different sites such as Junkyard, Scrap yard, pits, etc.
- The oily sludge, contaminated soil and other hazardous liquid waste (e.g. rinsate, chemicals, etc.) shall be stored in lined pits with HDPE liner. Liner shall be of sufficient thickness (at least 20mil) and adequate strength to withstand tears and punctures.

- All other wastes awaiting disposal shall be kept in closed containers separately. Care must be taken to prevent wastes giving rise to secondary environmental problems, such as odors or soil and groundwater pollution through rainwater leaching.
- All stored wastes must be clearly labeled with type of waste and warning signs.
- Daily estimates of hazardous and non-hazardous waste and volumes generated on site.
- Waste segregation, waste storage containers, general housekeeping and the provision of adequate resources will be monitored.
- All workers handling wastes shall use proper PPE.

vi- Recycling: Recycling and reuse minimizes the quantity of waste requiring disposal. Some of the wastes can be reused within the facilities while others can only be recycled at off-site recycling centers. For example, recycling of used oil is possible; batteries may be sent back to manufacturer or distributor for recycling. Waste shall not be sold to the unauthorized contractors/companies, who may not have proper recycling facilities, to avoid misuse and to reduce associated liabilities. The possibilities of recycling of each waste are discussed in relevant documents.

vii- Treatment: Some of the wastes, such as wastewater from camps, oily wastewater from process, etc., require proper treatment before disposal. The treated water should comply with NSI Quality Standards (NSI).

viii- Disposal: Disposal becomes the only available alternatives, if reuse and recycling options are exhausted. A material should be classified as a waste for disposal only if no other useful purpose can be identified and if the material cannot be beneficially reused or recycled. The choice of a suitable disposal option for any waste depends on both environmental and economic considerations. The final disposal can be either at on-site disposal facilities or at off-site disposal facilities.

(a) On-site Disposal Facilities

Burial Pits: Only segregated food waste shall be buried in burial pits. Buried waste should be covered with a thick layer of soil as 'daily cover' to reduce the environmental problems, such as odour from decaying / degrading waste, spreading of waste into other areas due to wind, vermin and disease vector, flies, mosquitoes, etc.

Reserve pits: These pits are used to temporarily store drilling waste, chemical waste, oily sludge and contaminated soil. The pits should be properly designed and lined to avoid soil, groundwater and surface water contamination.

Incineration: Incinerator will also be used for disposal of waste but before burning the trash, plastics, metal, glass and any other items that are not to be burned, should be segregated first. Ash of the incinerator shall be buried in the lined landfill as it may contain heavy metals.

Evaporation Ponds: The evaporation ponds are used to dispose of produced water by evaporation. All evaporation ponds should be lined.

Off-site Disposal Facilities:

Coding system for different type of waste

- Waste material (Color or code)
- Glass (blue); n
- Metals (green);n

- Plastic (white);n
- Oily rags (black); n
- Used oil (red); n
- Rubbish / trash (yellow)n

E- Waste Management Options: Waste will be managed accordance with the following requirements.

- Garbage collection containers, which will be located on the land site.
- Environmental inspectors/technicians will document, in their daily report, the compliance to measures outlined in this plan.
- Kitchen and food waste will be segregated from other waste materials; the main collection container for these wastes will be emptied at least twice a day in the interests of health and hygiene.
- Other wastes such as tins, glass, packaging, plastics, etc., will be placed in the appropriately designated collection container; the main waste containers will be emptied at an approved waste storage site.
- All wastes will be segregated upon receipt at the waste storage area.
- Inert waste will be segregated and stored to promote reuse; it will not be stored where it can be easily moved into a wetland or water body.
- The main garbage collection container(s) will be regularly collected and transported by a waste collection firm who specialise in waste disposal as per regulations.
- The impact caused by handling (including stockpiling, labeling, packaging & storage), collection, transportation and disposal of wastes shall be addressed in detail and appropriate mitigation measures shall be proposed.

This assessment shall cover the following areas:

- Potential hazards;
- Air and odour emissions;
- Noise;
- Wastewater discharge;
- Public transport; and landscape and visual impacts, if any.
- Wildlife protection requirement
- Fisheries protection

F- Recording & Reporting: Coca Cola has to record the information about source, composition, quantity, and final disposal of the waste. This information is needed for regulatory compliance, risk assessment and setting reduction targets and objectives as well as corporate statistics.

11.7. Environmental Monitor/ Inspector

A- Purpose Environmental Monitor / Inspector: This procedure identifies environmental responsibilities for the project offices and for the construction site. It also provides procedural guidance for environmental training, inspection, monitoring functions during construction.

B- Scope: Primary scope of environmental inspector/monitor is to comply with the environmental requirements of the project. Coca Cola is also responsible for inspecting, documenting, and ensuring that construction meets environmental responsibilities through an personnel orientation and training, and inspection of construction activities.

In addition, the company will assist in implementing environmental management plans through its program of construction inspection.

C- Definitions: Consists of examining construction activities in the field to verify and document that activities are carried out in compliance with construction and environmental Permits, specifications relating to environmental protection, and mitigation plans approved for the project.

D- Procedure: The company will establish a plan detailing the procedures and documents required for implementing environmental management plan thereby complying to the environmental legislations and regulations during the construction and operational phase of the project.

An environmental inspector will be assigned oversee the environmental compliance inspection process. In addition to performing duties, the environmental inspector (IE) will;

- Communicate with the Environmental Manager on daily basis.
- Provide key liaison role in coordinating attendees and facilitating agreements in the field, as appropriate, MET representatives.
- Coordinate daily with construction inspectors, the contractor, and biological and culture monitors to ensure that required monitors are present when construction activities are scheduled in all requiring monitors.
- The EI will be on a peer status with other project construction inspection staff.
- The EI will act as a liaison between the contractor and agency field representative and will coordinate regularly with the various construction inspectors are apprised of the status of environmental issues in their respective areas.
- The EI will be responsible for determining noncompliance activities and anticipating activities and situation that could result in noncompliance to plan of Development, environmental permits, and project stipulations.
- The EI will play a significant role suggesting methods to bring construction activity into compliance and/or to temporarily halt certain activities that may cause damage to sensitive environmental resources.

E- Management Options: Functions and responsibilities that will be assigned to company's ES&H department include:

- Orientation of project personnel in environmental requirements and procedures particularly in context to the sensitive resource issues at the construction site.
- Environmental training particularly in environmental monitoring is to be imparted to all project personnel.
- Inspection of facilities construction activities for compliance with environmental regulations,
- Specifications, stipulations, drawings, mitigation plans, and procedures.
- Documentation of all training, inspection, and monitoring activities should be exercised.
- Coordinate with the owner's environmental representatives and management personnel on environmental issues.
- Provide technical support to Owner for

i- Daily Environmental Inspection Checklist: The purpose of the checklist is to document the results of the environmental inspection activities conducted during the day with respect to compliance of observed construction activities relative to applicable environmental requirements.

The ES&H Manager reviews the report for adequacy and accuracy and identifies potential problem areas. Construction sign-off is required only if there is a non-compliance requiring action and/or acknowledgement by Construction. Copies of all checklists are filed in the site ES&H files.

The checklist is designed to be site specific and will remain dynamic through-out construction to ensure it remains relevant to current activities.

ii- Weekly Inspection Report: A weekly inspection report is prepared by the SEC after completing a general inspection of site and submitted to the field ES&H Manger with copies to the Environmental Lead. The report includes:

- Summary of inspection and monitoring efforts on the spread over the past week;
- Identification of any non-compliance and steps taken to correct non-compliance;
- Any other issues or problems encountered in carrying out inspection activities (e.g., schedule n delays);
- Government representatives on-site during the week;
- Inspection and monitoring plans and schedules for the upcoming week.
- General site audit and completion of the "**Weekly Inspection Checklist**".

The Owner will have a standing invitation to accompany project personnel on this audit. The checklist will be modified over time to reflect pertinent issues related to the phase of construction presently occurring.

12. CONTINGENCY PLANNING ACCIDENTS & MALFUNCTIONS

12.1. Fire Contingency Plan

Because flammable / combustible materials are present at this site, fire is an ever-present hazard. All personnel and subcontractors are not trained professional fire-fighters. Therefore, if there is any doubt that a fire cannot be quickly contained and extinguished, personnel will notify the Site Superintendent by radio and vacate the area. The Site Superintendent will immediately notify the local Fire Department.

The following procedures will be used to prevent the possibility of fires and resulting injuries:

- Sources of ignition will be kept away from where flammable materials are handled or stored.
- The air will be monitored for explosivity before and during hot work and periodically where flammable materials are present. Hot work permits will be required for all such work.
- "No Smoking" signs will be conspicuously posted in areas where flammable materials are present.
- Fire extinguishers will be placed in all areas where a fire hazard may exist.
- Before workers begin operations in an area, the foreman will give instruction on egress procedures and assembly points. Egress routes will be posted in work areas and exit points clearly marked.

The following procedures will be implemented in the event of a fire:

- Anyone who sees a fire will notify their supervisor who will then contact the Site Superintendent and the Health and Safety Officer by radio. The Health and Safety Officer will activate the emergency air horns and contact the local Fire Department.
- When the emergency siren sounds, workers will disconnect electrical equipment in use (if possible) and proceed to the nearest fire exit.

- Work crews will be comprised of pairs of workers (buddy system) who join each other immediately after hearing the fire alarm and remain together throughout the emergency. Workers will assemble at a predetermined rally point for a head count.
- When a small fire has been extinguished by a worker, the Site Superintendent and the Health and Safety Officer will be notified.

A- Evacuation Procedures: In the event on-site evacuation of remedial action personnel is necessary, the following actions will be taken:

- The emergency signal will be activated (one single long blast on the air horn).
- No further entry of visitors, contractors, or trucks will be permitted. Vehicle traffic within the site will cease in order to allow safe exit of personnel and movement of emergency equipment.
- Shut off all machinery if safe to do so.
- All on-site personnel, visitors, and contractors in the support zone will assemble at the entrance to the site for a head count and await further instruction from the Site Superintendent.
- All persons in the exclusion zone and contamination reduction zone will be accounted for by their immediate crew leaders (e.g., foremen). Crew leaders will determine the safest exits for employees and will choose an alternate exit if the first choice is inaccessible.
- During exit, the crew leader will try to keep the group together. Immediately upon exit, the crew leader will account for all employees
- Upon completion of the head count, the crew leader will provide the information to the Site Superintendent.
- Contract personnel and visitors will also be accounted for.

The names of emergency response team members involved will be reported to the Site Superintendent.

- A final tally of persons will be made by the Site Superintendent or designee. No attempt to find persons not accounted for will involve endangering lives of employees by re-entry into emergency.
- In all questions of accountability, immediate crew leaders will be held responsible for those persons reporting to them. Visitors will be the responsibility of those employees they are seeing. Contractors and truck drivers are the responsibility of the Site Superintendent. The Health and Safety Officer will aid in accounting for visitors, contractors, and truckers by reference to sign-in sheets available from the guard shack.
- Personnel will be assigned by the Site Superintendent to be available at the main gate to direct and brief emergency responders.
- Re-entry into the Site will be made only after clearance is given by the Site Superintendent. At his direction, a signal or other notification will be given for re-entry into the Site.
- Drills will be held periodically to practice all of these procedures and will be treated with the same seriousness as an actual emergency.

12.2. Hazardous Spill Contingency Plan

In the event of an emergency involving hazardous material spill or release, the following general procedures will be used for rapid and safe response and control of the situation.

Emergency contacts will provide a quick reference guide to follow in the event of a major spill. Spill responses will be coordinated through the local Emergency Response Centre.

A- Notification Procedures: If an employee discovers a chemical spill or a vapour or material release, he or she will immediately notify the Site Superintendent.

The Site Superintendent will obtain information pertaining to the following:

- The material spilled or released.
- Location of the release.
- An estimate of quantity released and the rate at which it is being released.
- The direction in which the spill, vapour or smoke caused by the release is heading.
- Any injuries involved.
- Fire and/or explosion or possibility of these events.
- The area and materials involved and the intensity of the fire or explosion.

This information will help the Site Superintendent to assess the magnitude and potential Seriousness of the spill or release.

B- Procedure for Containing/Collecting Spills: The initial response to any hazardous spill or discharge will be to protect human health and safety, and then the environment. Identification, containment, treatment, and disposal assessment will be the secondary response.

If, for some reason, a chemical spill is not contained within a dike or sump area, an area of isolation will be established around the spill. The size of the area will generally depend on the size of the spill and the materials involved. If the spill is large (greater than 55 gallons) and involves a tank rupture, an initial isolation of at least 100 feet in all directions will be used. Small spills (less than or equal to 55 gallons) or leaks from a tank or pipe will require evacuation of at least 50 feet in all directions to allow cleanup and repair and to prevent exposure.

When any spill occurs, only response personnel will be allowed within the designated affected area. If possible, the area will be roped or otherwise blocked off.

If the spill results in the formation and release of a toxic vapour cloud, further evacuation will be enforced. In general, an area at least 500 feet wide and 1,000 feet long will be evacuated downwind if volatile materials are spilled.

If an incident may threaten the health or safety of the surrounding community, settlement, etc., it will be consulted and determine if the public will be informed and possibly evacuated from the area. The Site Superintendent will inform the proper agencies in the event of its being necessary.

All petroleum product spills on the water will be reported to MET. Response personnel will take the following measures:

- Avoid breathing vapors of spilled material.
- If possible and safe to do so, turn off any ignition source or gas emergency shutoff valve.
- Make sure all unnecessary persons are evacuated from the hazard area.
- Put on protective clothing and equipment.

- If a flammable material is involved, remove all ignition sources, and use spark and explosion proof equipment for recovery of material.
- Determine the major components in the waste at the time of the spill and remove all surrounding materials that could be reactive with the spilled material.
- If wastes reach a storm sewer; try to dam the outfall by using sand, earth, sand bags, etc. If this is done, pump this material out into a temporary holding tank or drums as soon as possible.
- If volatile emissions may occur, spray the spill area with foam, if available.
- Apply appropriate spill control media to absorb discharged liquids.
- For large spills, establish diking around leading edge of spill using booms, soil or other appropriate material. If possible, use a diaphragm pump to transfer discharged liquid to drums or a holding tank.

C- Emergency Spill Response Cleanup Materials and Equipment: The supply of appropriate emergency response cleanup and personal protective equipment on hand will be inventoried and visually inspected on a weekly basis. The materials listed below will be kept on-site for spill control depending on the types of hazardous materials present. The majority of this material will be located in the support zone, in a supply trailer or storage area.

- Activated charcoal (carbon) to adsorb organic solvents (hydrocarbons) and to reduce flammable vapors.
- Appropriate solvents, e.g. CITRIKLEEN, for decontamination of structures or equipment.

The following equipment will be kept on-site and dedicated for spill cleanup:

- Plastic shovels for recovering corrosive and flammable materials.
- Sausage-shaped absorbent booms for diking liquid spills, drains, or sewers.
- Sorbent sheets (diapers) for absorbing liquid spills.
- Over pack drums for containerizing leaking drums.
- 55-gallon open-top drums for containerization of waste materials. Once a hazard has been recognized, take immediate action to prevent the hazard from becoming an emergency. This may be accomplished by the following:
 - Daily safety meeting
 - Task-specific training prior to commencement of activity
 - Lock-out/tag-out
 - Personal protective equipment (PPE) selection/use
 - Written and approved permits for hot work, confined space
 - Air monitoring
 - Following all standard operating procedures
 - Practice drills for fire, medical emergency, and hazardous substances spills.
- **Housekeeping:** In order to reduce the possibility of accidental spills and safety hazards, good housekeeping practices will be followed. They include prompt removal of small spills, regular maintenance of walking areas, regular removal of refuse, and staging of similar materials together.
- **Security:** All rules and regulations set up by landowner will be followed by all personnel on site.
- **Training:** All site personnel are trained to operate the equipment that is present at the site.

- **Fire Detection and Warning:** Portable Fire extinguishers will be used in buildings and as protection during "Hot Work" activities throughout the site. As construction progresses and systems are commissioned within specific buildings, personnel will be informed of the differential of alarm sounds.
- Large office accommodation will be protected by the use of hard-wired smoke detection devices with battery backup.
- A suitable means of raising the alarm in the event of a fire or other emergency at the terminal will be established. The alarm system will be appropriate to ensure all personnel can be notified immediately of any and evacuation, or other actions required. The alarm system will be tested on a regular basis.
- **Site Accommodation:** Site accommodation (all temporary facilities) shall be designed and laid out in such a manner so as to reduce the risk of fire to the minimum.
- Good housekeeping shall be observed at all times throughout buildings with desks cleared at the end of each working day and sensitive documents locked away in flame proof cabinets/ lockers.
- All site accommodation shall have sufficient multipurpose dry powder extinguishers located at the access door with signs indicating their positions.
- Additional CO2 extinguishers shall be provided to cover other electrical equipment.
- All fire extinguishers are visually checked on a regular basis through weekly area inspections and quarterly in accordance with equipment tagging process.
- **Fire Drills:** The Fire Safety Co-ordinator shall ensure that monthly drills are carried out that ensure all personnel are familiar with the evacuation procedure and their respective muster points.
- Simulated fires shall be carried out to ensure the readiness and competency of the fire brigade to fight a major fire. During the drill equipment shall be tested and shall adequately work. In the event any piece of equipment should fail it shall be immediately replaced.
- Review of brigade competency shall be determined during the drills. Brigade members shall be retrained if any evidence of in-competency exists.
- **Materials Storage:** The Site ES&H Manager must be informed of all flammable gases and liquids being brought onto site.
- Oxygen and fuel gas cylinders shall not be stored together. The minimum distance between cylinders is to be 3 meters. Singular oxygen, acetylene carts will be acceptable as long as they are in use together.
- No flammable materials including solids, gases or liquids shall be stored next to any temporary facilities.
- Storage of flammable gases shall be a minimum of 5 meters from any occupied building suitably secured and with a prominent sign stating "DANGER HIGHLY FLAMMABLE".
- Storage facilities for flammable gases will be inspected by the Site ES&H Manager prior to being used.
- Material storage within the warehouse facility will maintain an excellent standard of housekeeping at all times. Flammable material packaging shall be removed to a safe location as it becomes redundant. Sprinkler systems shall be investigated in warehousing facilities, and where possible installed. Materials shall be stored in compliance with existing MET regulations.
- **Firefighting Equipment:** The following firefighting equipment shall be maintained in good order at the Project and Equipment will also be suitable for fighting bush fires in and around the Project:
 - Fire Extinguishers of adequate size and number

- Fire hose and nozzles
- Bunker gear
- Air packs
- 1 pumper truck with internal tank
- 1 water tanker with pumping capabilities
- Fire pumps of sufficient size to fill tanker or pumper
- Assorted accessories for connecting hoses and fighting fires (wrenches, hose clamps, axes, etc.
- Rescue gear for high level rescue (if this is assigned to this group)
- Equipment shall be maintained and tested to ensure serviceability in the event of a fire.
- Tests shall be conducted monthly.
- A water fill station including a storage tank of adequate size to meet construction fire requirements shall be installed to facilitate the filling of the pumper truck and tanker.
- The plant fire suppression system shall be prioritized and serviceable as soon as practical during construction.
- **Training:** All employees shall receive general firefighting training (i.e. fire extinguisher use). Employees who are members of the fire brigade shall receive at a minimum the following training:
 - Use and limitations of the firefighting equipment
 - Firefighting strategies and methods
 - Use of respiratory equipment and its limitations
 - Donning bunker gear and its care
 - Care and maintenance of firefighting equipment and hoses
 - Confined space entry and firefighting in a confined space
 - First Aid
 - High level rescue (if the site assigns this responsibility to this group)

13. ENVIRONMENTAL COMPLIANCE

Proponent will be responsible for regular audit and review of environment and safety management of the facility. This will include both on-site auditing and review of performance reports. Additional onsite inspections and investigations will be undertaken in the event of significant environmental incidents.

These will be undertaken in conjunction with the relevant government agencies. Plant management will participate in the audits and inspections and investigations. Plant management will also be responsible for regular review of the environmental performance of the site and site personnel, and for the reporting on the implementation of commitments made in the EMP.

There is also likely to be some compliance auditing associated with the licensing of the facility, for each government recommendation and proponent commitment, the following information:

- The recommendation or proponent commitment being addressed;
- The issue to be addressed by the proponent;
- How the issue is to be addressed by the proponent;

- Where the issue is addressed in the EMP;
- When the issue is to be addressed by; and
- To whose satisfaction the issue is to be addressed.

The finalization of the EMP will see the completion of Compliance Audit Table, which will record dates of compliance by the proponent with recommendations and Commitments and a reference to appropriate documentation from the relevant approving authority. The Compliance Table is meant to be a live document and will be updated periodically throughout the life of the project.

- **Audits:** In particular, there will be:
 - Annual audit reports.
 - A triennial review and improvement of the EMP.

Proponent recognises that periodic external compliance audits and inspections will be made to monitor, assess and validate the level of Proponent performance and compliance pursuant to the commitments made in the accepted Environmental Management Plan.

- **Site Internal Environmental Audit:** To enable site management to assess the day-to-day environmental management of activities at the site. Environmental activities include all aspects of operations that result in emissions, effluent or wastes.
- **Environmental Management Systems Audit:** To assess the implementation and operational success of the EMS at the site. This is achieved by assessing the objectives, organisational structure, responsibilities, Procedures, processes and resources available at the site. The EMS Audit is a systems assessment, rather than an audit of environmental compliance, which is assessed through the Site Internal Environmental Audit.

Potential areas of concern for audit during construction of plant mainly include:

- Process Area
- Low Pressure and High Pressure pumping systems
- Vaporizers (Regasification Area)
- Vent or flare systems (low pressure and high pressure)
- Maintenance Workshop
- Administration Building
- Guard House
- Utility Area
- Control Room
- Gas Metering Station
- Offshore Pipeline launching area
- Gas pipeline
- Gas Receiving Station

TABLE 3: ENVIRONMENTAL MONITORING PLAN					
Stage	Monitoring areas	Parameters and techniques to monitor	Monitoring frequency	Reason to monitor parameter	Responsibility
OPERATIONS	Waste water	<ul style="list-style-type: none"> Waste water minimization Storage and handling Recycling and reuse Treatment before disposal 	Monthly	Compliance of Environmental Approval Conditions	Health, Safety & Environment Department
	Solid waste	<ul style="list-style-type: none"> Solid waste quality and quantity Solid waste disposal 	Monthly	Compliance of Environmental Approval Conditions	Health, Safety & Environment Department
	Fire & Safety	<ul style="list-style-type: none"> Fire Hazards & Safety Protocol 	Continuous	Compliance of Environmental Approval Conditions	Health, Safety & Environment Department
	Air Emissions	<ul style="list-style-type: none"> CO SOX NOX PM10 PM2.5 SPM 	Monthly	Compliance of Environmental Approval Conditions	Health, Safety & Environment Department
	Noise	Noise intensity measurement	Monthly	Compliance of Environmental Approval Conditions	Health, Safety & Environment Department
	Hazardous spill	<ul style="list-style-type: none"> Spill on Land 	Continuous	Compliance of Environmental Approval Conditions	Health, Safety & Environment Department
	Traffic management	Standard Operating Procedures	Continuous	Compliance of Environmental Approval Conditions	Health, Safety & Environment Department
	Compliance monitoring	<ul style="list-style-type: none"> EIA Commitments Mitigation Measures Conditions of Environmental Approval SOPs 	Monthly	<ul style="list-style-type: none"> EIA Commitments Mitigation Measures Conditions of Environmental Approval SOP 	Independent Monitoring Consultant (IMC)

14. IMPACT EVALUATION AND MITIGATIONS

The operational phase is the most critical component of Environmental Management because it is normally associated with several impacts. The phase comprises of the actual operation of the fuel storage tank. There will be several impacts that will occur daily or other sequential routine. The operational phase forms the basis of an Environmental Management Plan and it will be followed by the decommissioning phase. The major impacts identified by this study for the operational and probably decommissioning phase are detailed below:

Table 4: Impact Evaluations & Mitigation Measures

IMPACTS	DESCRIPTION	MITIGATION MEASURES	PROJECT PHASE	RESPONSIBILITY
Dust	<ul style="list-style-type: none"> • Very less dust might be generated during the demolition of the concrete slab(s). • The site is compacted hence less dust will be produced during operations • The nearest homestead is to the west of the site and its 300m away, therefore the people won't be affected by the dust if there will be and produced. • Overall, the impact of the dust will be for a short period and localized • The overall environmental significance is low 	<ul style="list-style-type: none"> • Employ dust suppression measures during decommissioning • Ensure all employees have appropriate PPE in relation to dust and vapors. 	<ul style="list-style-type: none"> • Site Manager • Contractors • Appointed HSEO 	<ul style="list-style-type: none"> • Site Manager • Contractors • Appointed HSEO
IMPACT ON SOILS				
Impact on soils	<ul style="list-style-type: none"> • Half of the site is compacted • The impact on soil is expected to be localized and of low Environmental significance • During the decommissioning phase, proper care must be taken when removing and disposing the fuel tanks as this can end up contaminating the soil. 	<ul style="list-style-type: none"> • Proper care should be taken so that there is no spill that would cause soil contamination • Spill kits and absorbents should be readily available on site • Hazardous waste properly handled and sent for disposal to appropriate disposal areas • The management to maintain records of contaminated waste on a regular 	Operational and decommissioning	<ul style="list-style-type: none"> • coca Cola • Contractors • Appointed HSEO

		basis <ul style="list-style-type: none"> • Re surface open areas during the decommissioning stage and introduce appropriate vegetation • Proper care should be taken so that there is no spill that would cause soil contamination 		
SURFACE/GROUND WATER CONTAMINATION				
Surface/ground water contamination	<ul style="list-style-type: none"> • Spillages might be generated when dispensing fuel into trucks and when fuel tanker trucks are offloading fuel. • Groundwater quality can also be affected through leaching/leakage of the above ground tank 	<ul style="list-style-type: none"> • Risks of such an impact can be lowered through proper training of staff and installation of suitable containment structures • The tank is above ground and is surrounded bund wall. • There should be a concrete slab at the filler and loading points leading to an oil and water separator. • The site should have an oil interceptor system on site linked to an oil and water separator pit • Proper toilet facilities • Empty containers of chemicals should not be dumped anywhere, all the garbage should be collected by the licensed garbage collectors • Proper monitoring of the product levels in the tanks must take place to eliminate overfilling • Equipment and materials to deal with spill clean-up must be readily available on site and staff must be trained in the usage of these products • Spillage control procedures must be in place according to SANS 10089-1:2008 and SANS 100131-2 standards, or better • Proper training and induction of operators must be conducted 	Operation	<ul style="list-style-type: none"> • Site manager • Contractors • Appointed HSEO

		<ul style="list-style-type: none"> Any spillage of more than 200 litres must be reported to the relevant authorities and remediation instituted (refer to section 49 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990)) An emergency response plan to give guidelines on spillages or leakages 		
SURFACE/GROUND WATER CONTAMINATION				
Surface/ground water contamination	During tank removal, Leakages/spillages might happen which can consequently affect ground water quality.	<ul style="list-style-type: none"> During decommissioning process, there is need to ensure that there is a qualified hazardous waste management contractor Pollution studies have to be undertaken in case of possible pollution or Groundwater contamination 	Decommissioning	<ul style="list-style-type: none"> Site Manager Contractors Appointed HSEO
AIR QUALITY				
Air Quality	<ul style="list-style-type: none"> Hydrocarbon vapour can be released into the atmosphere when dispensing fuel for trucks and when tanker trucks are offloading fuel. Hydrocarbons are a class of compounds primarily composed of carbon and hydrogen and there are major components of oil, natural gas and pesticides. These substances contribute to the greenhouse effect and global warming, 	<ul style="list-style-type: none"> Trucks idling time shall be minimized by putting up educative signs All venting systems and procedures have to be designed according to SANS standards and placed in a sensible manner Regular check tests and audits Employees working with fuel must be provided with proper Personal Protective Equipment (PPE) 	Operation	<ul style="list-style-type: none"> Coca Cola Company Site manager Appointed HSEO
FIRE AND EXPLOSION HAZARD				
Fire and Explosion Hazard	<ul style="list-style-type: none"> Fire and Explosion can happen during the operation phase Hydrocarbons are volatile under certain conditions and 	<ul style="list-style-type: none"> Sufficient water should always be available for firefighting purposes Any device or action that could cause ignition or spark shall not be permitted on near the fuel tank Warning signs prohibiting 	Operation	<ul style="list-style-type: none"> Coca Cola Company Site manager Appointed HSEO

	<p>their vapours in specific concentrations are flammable. If precautions measures are not taken to prevent their ignition, fire and subsequent safety risks may arise.</p>	<p>possible ignition agents should be clearly displayed on site Good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the fuel tank</p> <ul style="list-style-type: none"> • Firefighting trainings • The Emergency Response Plan should be implemented and should address the potential spills • Regular inspections to inspect and test firefighting equipment and pollution control measures at the storage facility • Fuel tanks should be established away from potential neighbouring fire points • All fire precautions and fire must be in accordance with SANS 10089-1:2008, or better • Experience has shown that the best chance to rapidly put out a major fire is in the first 5 minutes. It is important to recognize that a responsive fire prevention plan does not solely include the availability of firefighting equipment, but more importantly, it involves premeditated measures and activities to prevent, curb and avoid conditions that may result in fires • There must be an emergency evacuation point 		
HYDROCARBON WASTE				
Hydrocarbon waste	<ul style="list-style-type: none"> ✓ Liquid waste in the form of diesel and oil is normally the potential waste generated at site. ✓ Fuel spillages during off-loading 	<ul style="list-style-type: none"> ✓ Hydrocarbon Waste Management is vital among employees and management. Use of absorbents are 	Operation	<ul style="list-style-type: none"> • Coca Cola Company • Site manager

	<p>into the tank are a potential risk.</p> <ul style="list-style-type: none"> ✓ Domestic waste such as papers is generated from the offices on site. ✓ Waste in the form of contaminated soil due to spillage might occur, but should be prevented through the use of containment area as is 	<p>essentially recommended for Containing spillages.</p> <ul style="list-style-type: none"> ✓ Adequate supplies of absorbents should be readily available at all times ✓ Waste separation should be implemented to avoid mixing of contaminated waste and general waste ✓ Proper monitoring of the product levels in the tank must take place to eliminate Overfilling ✓ Appointment of a certified waste handling contractor to handle all hydrocarbon waste ✓ Waste minimization policy. ✓ bioremediation of contaminated soil ✓ Frequently cleaning of oil/water separator ✓ Spill containment around the pump ✓ Spillage bin and clean up kits ✓ Construct oil/water separator ✓ This impact can be reduced through proper training of the operators ✓ All spills must be cleaned up immediately and if spill is more than 200 L, it must be reported to the Ministry of Mines and Energy ✓ The presence of an emergency response plan and suitable equipment is advised, so as to react to any spillage or leakages properly and efficiently 		<ul style="list-style-type: none"> • Appointed HSEO
GENERAL WASTE				
General Waste	<p>Litter in the form of papers and plastics are likely to be produced. In general, the impact of waste is expected to be localized and it will be</p>	<ul style="list-style-type: none"> ✓ Strictly, no burning of waste on the site or at the disposal site ,as it possess environmental and public health impacts; ✓ Place bins around the site 	<p>Operation And Decommissioning</p>	<ul style="list-style-type: none"> • Coca Cola Company • Site manager • Appointed HSEO

	of low significance if mitigation measures are implemented.	<ul style="list-style-type: none"> ✓ Separation of waste should clearly be indicated. ✓ Waste should be dumped at an authorized designated area Regular inspection of the site 		
RISK OF OCCUPATIONAL HEALTH AND SAFETY				
Risk of OHS	<ul style="list-style-type: none"> ✓ OHS hazards which might be encountered include dermatitis which is caused by physical contact with fuel. ✓ Prolonged exposures might result in inhalation of fuel vapours hence possibilities of causing cancer. ✓ Fire hazards can also be a potential risk ✓ The bathrooms are also a source of concern, cleanliness must be maintained so as to avoid health related hazards 	<ul style="list-style-type: none"> ✓ Frequent distribution of protective equipment to employees and safety shoes where applicable). ✓ Conduct Hazard Identification and Risk Assessments ✓ All Health and Safety standards specified in the Labor Act should be complied with. ✓ Train workers how to use adequately the equipment ✓ Trainings on Occupational Health And Safety ✓ Safety talks to be done every day before commencement of work ✓ Implementation of Behaviour Based Safety System ✓ Provisions of First Aid Box and trained person in first aid. ✓ Any leakage/spillage shall be immediately attended and provision of urgent cleaning ✓ Work area will be monitored to maintain work environment free from any hazard ✓ Provision of adequate and maintenance of Fire Extinguishers at site ✓ Provisions of immediate accident/incident reporting and investigation ✓ Safety Posters and slogans should be exhibited at conspicuous places 	Decommissioning	✓ Coca Cola Company
CUMULATIVE				

Cumulative	<ul style="list-style-type: none"> • During the operational phase there might be cumulative impacts • Fuel is going to be offloaded which can result in the release of hydrocarbon vapours which have an impact of reducing the air quality and also causing fires and explosions • Hydrocarbon vapours if released in the atmosphere can also cause global warming, reduction of photosynthesis of plants and cancer. However. On site there is no vegetation hence the cumulative impact will be of low significance 	<ul style="list-style-type: none"> ✓ All possible sources of ignition in the entire area should be eliminated ✓ Sufficient water should always be available in case of fire for firefighting purposes ✓ Vent pipes should be placed in such a manner as to prevent impact on potential Receptors ✓ Regular check tests 	Operation phase	<ul style="list-style-type: none"> • Coca Cola Company • Contractors • Site Manger • Appointed HSEO
ACCESSIBILITY OF FUEL FOR OPERATIONS				
Accessibility of fuel	<ul style="list-style-type: none"> ✓ The storage facility will reduce the distance to be travelled to the nearest filling station. 	<ul style="list-style-type: none"> ✓ · Maintain a consistent supply of the stated products ✓ Make provision of timely delivery of fuels to the site. 	Operation	<ul style="list-style-type: none"> • Coca Cola Company • Appointed Sales department.
GOVERNMENT REVENUE				
Payment of taxes	<ul style="list-style-type: none"> ✓ The proponent will have to pay tax which will indirectly benefit the whole country. 	<ul style="list-style-type: none"> ✓ Continuous payment of taxes due as regulated in the Namibian laws. 	Operation	<ul style="list-style-type: none"> • Coca Cola Company • Contractor/s

15. DECOMMISSIONING AND SITE CLOSURE

The decommissioning of tanks should be overseen by a professional from the oil industry and the Environmental Officer. The old tanks should be disposed off at a suitable landfill site and disposal certificates provided.

Prior the decommissioning of the site or replacement of any tanks a qualified environmental consultant should be appointed to conduct a due diligence survey to ensure the environmental status of the site.

- Ensure that the site follows all relevant by-laws and policies
- A contamination assessment should be carried out to assess and determine whether any pollution occurred during operations.
- Asses the site to determine if the presence of contamination present any additional risk to human health and the environment. If any contamination occurs that it is remediated to acceptable levels
- Site rehabilitation

16. ENVIRONMENTAL MONITORING

An Environmental Monitoring Plan provides a delivery mechanism to address the adverse environmental impacts of a project during its execution, to enhance project benefits, and to introduce standards of good practice to be adopted. An **Environmental Monitoring Plan** is important as it provides useful information and helps to assist in detecting the development of any unwanted environmental situation, and thus, provides opportunities for adopting appropriate control measures.

Important parameters that are sensitive include groundwater, occupational health and safety, fire and explosion and generation of hydrocarbon wastes. The suggested monitoring details are outlined in the following sections.

Table 5; Important Parameters That Are Sensitive To The Environment			
IMPACT	RECEPTORS	TYPE OF MONITORING	FREQUENCY
Ground and surface water contamination	<ul style="list-style-type: none"> • Underground aquifers • Flood channels, Subsidiary streams, sea and dams 	<ul style="list-style-type: none"> • Inspections on above-ground tanks for possible leakages • Testing of “grey water” from oil/water separator pit before discharge into sewer lines or flood channels 	<ul style="list-style-type: none"> • Quarterly • Any time when • High discrepancies in fuel reconciliation • Regularly as required
Fire and explosion	<ul style="list-style-type: none"> • Environment • Humans and property 	<ul style="list-style-type: none"> • Regular inspections should be carried out to inspect and test firefighting equipment. • Regular servicing of firefighting equipment 	<ul style="list-style-type: none"> • Quarterly • Annually
O.H.S	<ul style="list-style-type: none"> • Employees 	<ul style="list-style-type: none"> • Site inspection • Conducting Hazard and Risk Assessments • Safety procedures Evaluation. • Health And Safety Incident Monitoring 	<ul style="list-style-type: none"> • Daily
Hydrocarbon wastes	<ul style="list-style-type: none"> • Environment 	<ul style="list-style-type: none"> • Inspection of pumping installations • Monitoring of the oil/water separator • Proper training of fuel attendance. • Spillages more than 200L should be reported to the Ministry of Mines and Energy • Proper spill cleanup kits on site 	<ul style="list-style-type: none"> • Daily • Daily • Every time there is a new employee
Generation of waste (solid)	<ul style="list-style-type: none"> • Land 	<ul style="list-style-type: none"> • Site inspection on housekeeping • Regular collection of waste by the City of Windhoek 	<ul style="list-style-type: none"> • Daily
	<ul style="list-style-type: none"> • Employees, • Atmosphere 	<ul style="list-style-type: none"> • Air quality tests 	<ul style="list-style-type: none"> • Annually

17. CONCLUSIONS

There will be minimized unfavorable impacts on the environment if the Environmental Management plan is followed and implemented accordingly. Whenever impacts occurred, immediate action should be taken to minimise the increase effects related with the impacts.

To ensure the importance of this document to the specific stage of project, it needs to be reviewed throughout all phases especially when there is a change in activities in order to enhance mitigation measures.

The Environmental Management Plan should be used as a reference document during construction, operational and decommissioning phases and auditing should take place in order to determine compliance with the EMP for the proposed site. Parties responsible for any wrongdoing of the EMP should be held responsible for any rehabilitation that may need to be undertaken.

Lists of Annexures

- 1. Previously Issued Environmental Clearance Certificate**
- 2. Previous Environmental Impact Assessment Report**
- 3. Proof of Payment**